

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON
EUGENE DIVISION

WILLAMETTE RIVERKEEPER, et al.,

Civ. No. 6:21-cv-00034-AA

Plaintiffs,

OPINION AND ORDER

v.

**NATIONAL MARINE FISHERIES
SERVICE, et al.,**

Defendants.

AIKEN, District Judge:

Plaintiffs Willamette Riverkeeper, et al., move for summary judgment, ECF No. 49, seeking a ruling that Defendants United States Army Corps of Engineers (“Corps”) and United States Fish and Wildlife Service (“FWS”) violated the Endangered Species Act (“ESA”) in funding and facilitating releases of summer steelhead, which are alleged to jeopardize winter steelhead, and that Defendant National Marine Fisheries Service (“NMFS”) violated the ESA in issuing an unlawful

Biological Opinion (“BiOp”) and Environmental Impact Statement (“EIS”) under the National Environmental Policy Act (“NEPA”) to analyze the effects on winter steelhead of those releases. Defendant-Intervenor is the Oregon Department of Fish and Wildlife (“ODFW”), which operates the fish hatchery facilities and releases summer steelhead. Federal Defendants cross move for summary judgment on all claims. ECF No. 58. ODFW joins that motion and cross-moves on all claims. ECF No. 59. For the reasons explained, Plaintiffs’ Motion for Summary Judgment, ECF No. 49, is GRANTED in part and DENIED in part, consistent with this opinion. Federal Defendants’ Cross Motion for Summary Judgment, ECF No. 58, is GRANTED in part and DENIED in part, consistent with this Opinion. State Defendant ODFW’s Motion for Summary Judgment, ECF No. 59, is GRANTED in part and DENIED in part, consistent with this opinion.

BACKGROUND

I. SUMMARY OF THE LAWSUIT

This lawsuit involves wild winter steelhead in the Upper Willamette River, a distinct population unit of salmonoids listed as threatened under the ESA. Available data about winter steelhead shows an annual average of less than 2000 fish in the North and South Santiam. NOAA AR 2032. Plaintiffs claim that the 242,000 hatchery-raised summer steelhead released into the North and South Santiam compete with and jeopardize the winter steelhead’s already-threatened existence. In 2018, ODFW proposed a Hatchery and Genetic Management Plan (“HGMP” or “Management Plan”) to reduce interactions between hatchery steelhead and wild

winter steelhead. Still, the management plan proposes releasing 547,500 hatchery total steelhead smolts into the Upper Willamette River. Plaintiffs challenge the 2019 BiOp specifically issued to evaluate hatchery programs in the Upper Willamette River. In that BiOp, NMFS concluded that the hatchery operations described in the Management Plan would not jeopardize the continued existence of listed winter steelhead. The BiOp evaluated several fish species across several waters of the Willamette River. However, in this lawsuit, there are only two Upper Willamette River hatchery operations at issue: (1) the South Santiam Hatchery at the base of Foster Dam, where ODFW releases hatchery raised summer steelhead into the South Santiam River (NOAA AR 2337), and (2) the Minto Fish Collection Facility, where ODFW releases hatchery raised summer steelhead into the North Santiam River (NOAA AR 2327).

Plaintiffs claim that NMFS evaluated the effects on winter steelhead of adopting the Management Plan for hatchery summer steelhead and issued an unlawful Biological Opinion (“BiOp”) finding that the program does not jeopardize the continued existence of winter steelhead or destroy or adversely modify their critical habitat. Plaintiffs assert that NMFS also violated ESA regulations when it approved the hatchery summer steelhead HGMP. Finally, that NMFS violated the National Environmental Policy Act (“NEPA”) when it issued an unlawful Environmental Impact Statement (“EIS”) and Record of Decision (“ROD”) to approve the HGMP.

II. STATUTORY BACKGROUND

A. *The Endangered Species Act*

When it was enacted, the ESA was “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180 (1978). For ESA-listed anadromous fish, federal agencies must consult with NMFS under Section 7 of the ESA to “[e]nsure that any action authorized, funded, or carried out by [the] agency . . . is not likely to jeopardize the continued existence” of the species. 16 U.S.C. § 1536(a)(2). NMFS then prepares a BiOp that addresses the species status, and whether the proposed action, along with direct, indirect, and cumulative effects, will jeopardize it. *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 518 (9th Cir. 2010) (citing 50 C.F.R. § 402.14(g)). “To ‘jeopardize the continued existence’ of a species is to ‘engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of the species.’” *Id.*

In turn, Section 9 of the ESA prohibits “take” of individual members of a listed species. *Id.* at 519 (citing 16 U.S.C. § 1538). If, during consultation, NMFS “concludes that an action will not jeopardize the existence of a listed species or adversely modify its habitat, but the project is likely to result in incidental taking of listed species, [it] must provide a written statement with the BiOp that authorizes such takings.” *Or. Nat. Res. Council v. Allen*, 476 F.3d 1031, 1034 (9th Cir. 2007). The purpose of an incidental take statement (“ITS”) is to set a permissible amount or extent of take of members of the species, to “set forth a ‘trigger’ that, when reached” requires the

parties to re-initiate consultation to ensure excessive take of individuals does not jeopardize the species as a whole. *Ariz. Cattle Growers' Ass'n v. FWS*, 273 F.3d 1229, 1249 (9th Cir. 2001).

Section 9, on its face, does not provide a blanket protection from take to “threatened” species. However, § 4(d) of the ESA provides that NMFS shall “issue such regulations ... necessary and advisable to provide for the conservation of such [threatened] species.” 16 U.S.C. § 1533(d). Pursuant to § 4(d), § 9’s take prohibition has been extended to threatened anadromous fish, including the species at issue in this case. As a part of the 4(d) rule, NMFS established exceptions to § 9’s take prohibition known as “4(d) Limits.” *Id.*

Limit 5 creates an exemption from § 9’s take prohibition for otherwise unlawful take of anadromous fish caused by a hatchery’s artificial propagation program so long as the hatchery is operated pursuant to a hatchery genetic management plan (“HGMP”) approved by NMFS. 50 C.F.R. § 223.203(b)(5). Among other things, a HGMP must have “clearly stated goals, performance objectives, and performance indicators that indicate the purpose of the program, its intended results, and measurements of its performance in meeting those results.” *Id.* at § 223.203(b)(5)(A). An approved HGMP must evaluate, minimize, and account “for the propagation program's genetic and ecological effects on natural populations, including disease transfer, competition, predation, and genetic introgression caused by the straying of hatchery fish.” *Id.* at § 223.203(b)(5)(E).

B. The National Environmental Policy Act

NEPA, 42 U.S.C. §§ 4321–4360m-11, requires federal agencies to examine the environmental effects of proposed federal actions. *Balt. Gas & Elec. Co. v. Nat. Res. Def. Council*, 462 U.S. 87, 97 (1983). Unlike other environmental statutes, NEPA does not mandate any substantive results, but only prescribes a necessary process for analyzing potential environmental effects. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350–51 (1989). NEPA’s “mandate to the agencies is essentially procedural” and is designed “to [e]nsure a fully informed and well-considered decision.” *Vt. Yankee Nuclear Power Corp. v. Nat. Res. Def Council*, 435 U.S. 519, 558 (1978). In reviewing the sufficiency of an agency’s NEPA analysis, the role of the courts is to ensure that the agency has adequately considered and disclosed the environmental impact of its actions and that its decision is not arbitrary or capricious. *Balt. Gas & Elec. Co.*, 462 U.S. at 97–98. NEPA and its implementing regulations require the preparation of an Environmental Impact Statement (“EIS”) for “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). One of NEPA’s requirements is that an EIS must “briefly specify the underlying purpose and need” for a project and propose and evaluate “reasonable alternatives” to the proposed action. 40 C.F.R. §§ 1502.13–14. An EIS’s range of alternatives is reviewed under a “rule of reason.” *Westlands Water Dist. v. U.S. Dep’t of Interior*, 376 F.3d 853, 868 (9th Cir. 2004).

II. HISTORICAL BACKGROUND

In the twentieth century, the Corps constructed thirteen dams on the Willamette River leading to destruction of historic habitat and staggering decline of

native fish species, including the distinct population of winter steelhead in this case. Winter steelhead do not remain in the river during the summer fishing season. To mitigate the loss of fishing opportunities for anglers, ODFW releases hundreds of thousands of hatchery-raised summer steelhead into the area where a small number of winter steelhead live. Hatchery steelhead are non-native, not endangered, and have no conservation benefit. Their sole purpose is to provide sport fishing opportunities. It is undisputed that hatchery steelhead have an adverse impact on the winter steelhead. Defendants approved a Management Plan that includes measures aimed at reducing those adverse impacts, and Plaintiffs argue that, even with improved measures, the adverse impact of hatchery fish on winter steelhead is unacceptable and Defendants' approval of the plan violates the ESA, APA, and NEPA.

A. The Willamette Valley Project

The Willamette River Basin Flood Control Project ("Willamette Valley Project") is a network of thirteen federal dams and related facilities on various tributaries in the Willamette River basin. NOAA AR 2007, 2271. The Corps constructed the Willamette Valley Project dams under the authorization and appropriations in the Flood Control Acts of 1938 and 1950. USACE AR 6585. Because these dams block fish passage, and therefore access to historic habitat above the dams, Congress authorized the Corps to build, operate, and fund hatchery facilities and programs to compensate for resulting impacts to fish and fisheries. NOAA AR 2275. These Willamette Valley Project dams include the Big Cliff and

Detroit Dams on the North Santiam River and the Foster and Green Peter Dams on the South Santiam River. NOAA AR 2007, 2271.

Together, those dams block winter steelhead from roughly one-third of their historic habitat. NOAA AR 2809. As a result, winter steelhead “are largely confined below much of their historical spawning and rearing habitat.” NOAA AR 13925. Habitat conditions below the dams are “poor.” NOAA AR 2054. Water quality in the rivers and tributaries is degraded; many are “water quality limited” under the Clean Water Act due to high temperature and poor dissolved oxygen, both of which are destructive for steelhead. NOAA AR 14381-82. Further, riparian areas along the rivers and tributaries lack trees to create shade, and adjacent lands exhibit “poor agricultural and forestry practices.” NOAA AR 14379-80. In 2015, NMFS found that “[m]uch of the accessible habitat . . . in the North and South Santiam Rivers is degraded and under continued development pressure.” *Id.* Although habitat restoration efforts are underway, the time scale for restoring functional habitat is considerable. NOAA AR 13928.

B. Threatened Upper Willamette River Winter Steelhead

In 1999, NMFS issued a final rule listing the evolutionarily significant unit (“ESU”) of winter-run steelhead in the Upper Willamette River as threatened. 64 Fed. Reg. 14517, 14521 (Mar. 25, 1999). NMFS was “concerned about the universally declining trends in abundance in the relatively small-to-moderate sized runs of winter steelhead in this ESU.” *Id.* at 14524. NMFS noted steelhead “native to the Upper Willamette River ESU are late-run winter steelhead, but introduced hatchery

stocks of summer and early-run winter steelhead also occur in the [UWR].” *Id.* NMFS was “concerned about the potential risks associated with interactions between non-native summer and wild winter steelhead, whose spawning areas are the same in some rivers (especially the Molalla and North and South Santiam Rivers).” *Id.*

In 2006, NMFS relisted the Upper Willamette River winter steelhead distinct population segment (“DPS”) as threatened.¹ 71 Fed. Reg. at 860; NOAA AR 2030. Hatchery summer steelhead in the Upper Willamette River “are an out-of-basin stock and not considered part of the DPS.” NOAA AR 2030.

The DPS consists of four populations: (1) North Santiam; (2) South Santiam; (3) Molalla; and (4) Calapooia. NOAA AR 2030; USACE AR 6601. The winter steelhead populations in the North and South Santiam are both “core” and “genetic legacy” populations. A “core” population “historically represented the centers of abundance and productivity for a major population group,” while a “genetic legacy” population “exhibit[s] important life history characteristics no longer found throughout the” listed area. NOAA AR 4257. The primary threats to the North

¹ The ESA defines “species” to include subspecies and any “[DPS] of any species of vertebrate fish . . . which interbreeds when mature.” 16 U.S.C. § 1532(16). In 1991, NMFS issued a policy stating that a Pacific salmonid population would be considered a [DPS] if it represented an [ESU] of the species—that is, if the population is “substantially reproductively isolated from other conspecific population units” and “represent[s] an important component in the evolutionary legacy of the species.” 56 Fed. Reg. 58612, 58618 (Nov. 20, 1991). NMFS and FWS subsequently adopted a joint policy for recognizing DPSs. 61 Fed. Reg. 4722 (Feb. 7, 1996). Because NMFS and FWS share jurisdiction over West Coast steelhead, and because West Coast steelhead is “a type of salmonid with characteristic not typically exhibited by Pacific salmon,” NMFS relisted the Upper Willamette River winter steelhead ESU as a DPS. 71 Fed. Reg. 834 (Jan. 5, 2006).

Santiam and South Santiam populations—the only two populations of the DPS into which hatchery summer steelhead are released—are habitat loss and degradation caused by the Willamette Valley Project dams, which block winter steelhead from about one-third of their historic habitat. NOAA AR 2037, 2809.

NMFS reviewed the status of the DPS in 2016 and concluded that winter steelhead should remain listed as threatened. NOAA AR 2031. From 2007 to 2016, an annual average of 3,140 adult winter steelhead were counted at Willamette Falls. *Id.*

C. History of ODFW Summer Steelhead Hatchery Program

“Summer steelhead are not native to the Upper Willamette Basin.” USACE AR 4455. For reasons discussed above, ODFW operates a hatchery program to raise and release summer-run steelhead into streams in the Upper Willamette River basin. USACE AR 6585, 6596. ODFW began releasing summer steelhead into the North Santiam River in 1966 and into the South Santiam River in 1969. USACE AR 6595. Release of summer steelhead was intended to create a new fishing opportunity because, as ODFW explained, “[n]ative winter steelhead had not provided the angling opportunity desired by sportsmen and fisheries managers, since they spawned and were essentially gone from the system by late May. By the time dependable weather rolled around, the winter fish were gone. The creation of a healthy summer run was intended to expand the duration of the steelhead angling season through the summer and fall[.]” USACE AR 792.

The Corps stopped funding the production and release of hatchery summer steelhead in the South Santiam River in 2017 and in the North Santiam River in 2018. *Willamette Riverkeeper v. U.S. Army Corps of Eng'rs*, No. 6:17-cv-000801-MC, Stipulated Voluntary Dismissal, ECF No. 46 at 2–3; *see also* USACE AR 6583 (“The [Corps] does not fund summer steelhead production in the North or South Santiam Basin.” (emphasis added)).

ODFW spawns and rears summer steelhead at the South Santiam Hatchery at the base of Foster Dam, where the Foster Fish Collection Facility is located, for release into the South Santiam River. NOAA AR 2337. ODFW releases summer steelhead into the North Santiam River from the Minto Fish Collection Facility. NOAA AR 2327. ODFW also releases summer steelhead into the mainstem Willamette, Middle Fork Willamette, and McKenzie Rivers. USACE AR 6592, 6595.

Summer steelhead are released as smolts (or yearlings) that are ready to emigrate to the ocean. NOAA AR 2100; USACE AR 6596. They then exhibit life histories like winter steelhead and some juveniles residualize (meaning, a few remain and do not find their way to the ocean). NOAA AR 14475. Those that emigrate to the ocean generally return to freshwater as adults in two years, NOAA AR 4345, ascend Willamette Falls in June, and reach the Santiam basin from June through August. NOAA AR 14480, 14469. Some return to traps at fish collection facilities. NOAA AR 2122. Some are caught by anglers. NOAA AR 14422. Some spawn in the wild, either with other summer steelhead, or with wild winter steelhead. NOAA AR

2133. The majority of smolts emigrate to the ocean within seven to ten days of release. NOAA AR 2177.

From 2003 to 2014, an average of 595,600 hatchery summer steelhead smolts per year were released in the Upper Willamette River. USACE AR 6592-93. After smolts emigrate to the ocean, they typically return to the Upper Willamette River two years later as adults to spawn. From 2005 to 2016, an average of 18,500 adult hatchery summer steelhead returned per year. *Id.* Anglers caught roughly 10,000 of these summer steelhead per year on average from 2007 to 2015. USACE AR 6593.

D. The 2008 Biological Opinion

In 2007, the Corps consulted with NMFS to evaluate whether the Willamette Valley Project—including fish hatcheries—jeopardize winter steelhead and spring Chinook salmon. USACE AR 15. In 2008, NMFS issued a BiOp finding the Willamette Valley Project jeopardizes the continued existence of winter steelhead and spring Chinook. NOAA AR 2238-3508. NMFS found limiting factors for recovering winter steelhead include lack of access to historic habitat because they are blocked by dams and degraded habitat below those dams. NOAA AR 3179. And, at the time, “a third, unique, limiting factor is the potential for competition, predation, and genetic introgression from [] hatchery fish interacting with and spawning in the wild with the native winter-run.” NOAA AR 7605.

In its 2008 BiOp, NMFS found the “non-native summer steelhead hatchery program creates threats to listed winter steelhead.” NOAA AR 2419. NMFS noted that in the South Santiam River, “hatchery summer steelhead spawn naturally in the

same areas as winter steelhead.” NOAA AR 3027. Further, “[s]ince there is some overlap in the spawn timing of summer- and winter-run fish from February through March, the potential exists for summer steelhead to interbreed with winter steelhead in the South Santiam River.” *Id.* NMFS noted that “[c]ompetition for rearing resources and spawning sites may also occur between hatchery-origin summer steelhead and wild winter steelhead.” NOAA AR 2419. NMFS stated, “hatchery [summer] steelhead have more of a tendency to residualize than hatchery spring Chinook” and “residual summer steelhead have been observed in all areas where hatchery fish are released.” NOAA AR 2947.²

Ultimately, NMFS found the Willamette Valley Project, including hatchery summer steelhead, jeopardize winter steelhead, and proposed that the Corps submit to NMFS and implement an HGMP for the summer steelhead hatchery program to reduce and minimize adverse effects to winter steelhead as a reasonable and prudent alternative. NOAA AR 3250–51. The 2008 biological opinion also recommended a variety of mitigation measures to reduce interactions between hatchery summer steelhead and winter steelhead: releasing only hatchery summer steelhead that leave the hatchery of their own volition to reduce residualism; reducing summer steelhead recycling in the North Santiam and South Santiam Rivers; reducing hatchery summer steelhead releases in the North Santiam River; reconstructing the Foster

² The 2008 BiOp states that mortality to winter steelhead juveniles and adults from summer steelhead are “not quantifiable at the present time (e.g., predation by program hatchery-origin fish on listed fish below release locations; competition and density dependent effects in the Lower Willamette and estuary).” NOAA AR 3312.

and Minto adult fish collection facilities; and adopting an adaptive management approach to the hatchery that incorporates research, monitoring, and evaluation. NOAA AR 3253–55, 3292–95.

E. The 2015 Winter Steelhead Status Review Shows Downward Trends

In 2015, NMFS issued a five-year status review for Northwest salmon and steelhead. NOAA AR 13699-14055. NMFS found that “overall abundance for the Upper Willamette River winter steelhead [distinct population segment] remains low with recent trends being stable.” *Id.* The 2015 status review found that none of the four listed winter steelhead populations in the Upper Willamette River are meeting recovery goals, and all four have downward trends. NOAA AR 2036-37.

F. Plaintiffs’ 2017 Lawsuit

On May 22, 2017, Plaintiffs in this case sued the Corps for failing to reinitiate consultation as to new information about the effects of summer steelhead on winter steelhead, and for causing jeopardy to winter steelhead by failing to submit to NMFS a proposed summer steelhead Management Plan, as the 2008 BiOp required. *See Willamette Riverkeeper v. U.S. Army Corps of Eng’rs*, No. 6:17-cv-00801-MC (D. Or.). On April 9, 2018, the Corps reinitiated consultation with NMFS and Plaintiffs voluntarily dismissed the case.

G. The 2018 Hatchery and Genetic Management Plan

In 2018, the Corps and ODFW submitted to NMFS a Management Plan for the summer steelhead hatchery program. USACE AR 6579. The Management Plan is the plan at issue in this case. It incorporates certain mitigation measures in

accordance with in the 2008 biological opinion to reduce interactions between hatchery steelhead and winter steelhead. As mentioned, the Management Plan proposes releasing 547,500 hatchery summer steelhead smolts into the Upper Willamette River, including 121,000 into the North Santiam River and 121,000 into the South Santiam River. USACE AR 6592. Those figures represent a 25% reduction in the number of released hatchery summer steelhead, compared to what was being released in the years preceding the Management Plan. ODFW MSJ at 8. The Management Plan also describes additional reforms, including a full stop to recycling returning adult summer steelhead in the North and South Santiam Rivers, and instead, removal of those fish from the system. *Id.* The Management Plan also describes advancing spawn timing so that all hatchery broodstock egg takes occur by December 31. *Id.* The HGMP also states that all these measures in combination will limit gene flow to under 2% from hatchery summer steelhead to winter steelhead. *Id.* See also NOAA 4339, 4344, 4346, 4342.

I. 2019 Biological Opinion

In 2019, NMFS completed consultation and issued a BiOp on the effects of the summer steelhead hatchery program as described in the Management Plan. The BiOp evaluated the effects of five other Corps-funded ODFW hatchery programs in the Upper Willamette River with Management Plans: four spring Chinook salmon hatchery programs and a rainbow trout hatchery program. See NOAA AR 2005-06. Those hatchery programs and their Management Plans are not at issue in this case. NOAA AR 1990-2237.

The BiOp states that the proposed action of implementing the hatchery programs for summer steelhead will continue to have risks for the Upper Willamette winter steelhead DPS. NOAA AR 2194. Further, that “[t]here are no conservation/recovery benefits of these programs for ESA-listed winter steelhead” and that “[t]he hatchery summer steelhead program in particular represents the greatest risks to winter steelhead from the interbreeding between hatchery fish (that are not native to the DPS) and ESA-listed winter steelhead.” *Id.* The BiOp notes that “[g]ene flow from hatchery steelhead to winter steelhead populations has occurred since this program was initiated over four decades ago.” *Id.*

However, in the BiOp, NMFS concludes that the summer steelhead hatchery program, as improved through the measures outlined in the Management Plan, would not jeopardize the continued existence of listed winter steelhead. NOAA AR 2197. Under the Management Plan, 242,000 summer steelhead will be released into the “core” and “genetic legacy” winter steelhead population areas of the North and the South Santiam Rivers. NOAA AR 4344. The aim is to have 14,880 adult hatchery summer steelhead return to the Upper Willamette River to be available for fishing. NOAA AR 4341, 4344. The Management Plan proposes measures such as spawning summer steelhead earlier in the hatchery, the aim of which is to have the summer steelhead leave and return earlier than when winter steelhead are spawning, resulting in less interaction during spawning time. NOAA AR 2122, 2141.

Because NMFS also concluded that the summer steelhead hatchery program causes incidental “take” of threatened winter steelhead because of genetic and

ecological interactions between hatchery and wild steelhead, the BiOp includes an ITS exempting incidental take of winter steelhead from liability under ESA Section 9, along with terms and conditions with which the Corps and ODFW must comply. NOAA AR 2197-205, 2207. NMFS also prepared an EIS under NEPA evaluating the environmental impacts of the Management Plan, NOAA AR 14316-733, and issued a Record of Decision documenting its authorization of the above-described summer steelhead hatchery program HGMP. NOAA AR 14080–87.

LEGAL STANDARD

I. STATUTORY LEGAL STANDARDS

Neither the ESA nor NEPA supply a separate standard, so the court reviews claims under those Acts under the standards of the APA. *Bennett v. Spear*, 520 U.S. 154, 174 (1997); *Oregon Natural Desert Ass’n v. Bureau of Land Mgmt.*, 625 F.3d 1092, 1109 (9th Cir.2010); *Pyramid Lake Paiute Tribe of Indians v. U.S. Dept. of Navy*, 898 F.2d 1410, 1414 (9th Cir.1990).

The APA authorizes courts to “set aside agency action ... found to be ... arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A). “Agency action is arbitrary and capricious if the agency ‘relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.’” *City of Los Angeles, California v. Fed. Aviation Admin.*, 63 F.4th 835, 842 (9th Cir. 2023) (quoting

WildEarth Guardians v. EPA., 759 F.3d 1064, 1069-70 (9th Cir. 2014)). The APA “does not allow the court to overturn an agency decision because it disagrees with the decision.” *River Runners*, 593 F.3d at 1070. The Court may not substitute its judgment for the agency's and must uphold the decision “if there is a rational connection between the facts that the agency found and its conclusions.” *Id.*

Prior to the Supreme Court's decision in *Loper Bright Enterprises v. Raimondo*, — U.S. —, 144 S. Ct. 2244 (2024), courts would determine whether the agency's interpretation was due deference under *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 694 (1984). However, after *Loper Bright Enterprises*, courts may look to agency interpretations for guidance, but do not defer to the agency. 144 S. Ct. at 2266-67; *see Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944) (explaining that, while an agency's interpretation is “not controlling,” it may still have “power to persuade” based on “the thoroughness evident in its consideration, the validity of its reasoning, [and] its consistency with earlier and later pronouncements”).

II. MOTION FOR SUMMARY JUDGMENT STANDARD

The Ninth Circuit has endorsed the use of Rule 56 motions for summary judgment in reviews of agency administrative decisions under the APA, 5 U.S.C. § 701–06. *See, e.g., Nw. Motorcycle Ass'n v. U.S. Dep't of Agric.*, 18 F.3d 1468, 1471-72 (9th Cir. 1994). Under Rule 56, “[t]he moving party is entitled to summary judgment as a matter of law where ... there are no genuine issues of material fact in dispute.” *Id.* at 1472. Because the role of the court under APA is not to “find facts” but to review

the administrative record to determine whether the federal agency considered the relevant factors and reached conclusions that were not arbitrary and capricious, there can be no genuine issue of material fact, and summary judgment is the appropriate resolution of the case.

STANDING DISCUSSION

I. STANDING

In their cross-motion for summary judgment, Federal Defendants assert that Plaintiffs lack standing. Def. MSJ at 10-11 (ECF No. 58). To establish Article III standing, a plaintiff must demonstrate that it (1) suffered an injury-in-fact that (2) is fairly traceable to the defendant's conduct, and which (3) is likely to be redressed by a favorable decision. *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560-61 (1992). Federal Defendants do not dispute that Plaintiffs have demonstrated an injury-in-fact. Federal Defendants challenge standing based on causation and redressability.

A. *Causation*

Federal Defendants maintain that the Court lacks jurisdiction over Plaintiffs' ESA claims because neither the Corps nor FWS funds the production or release of live hatchery summer steelhead into the North Santiam or South Santiam Rivers inhabited by Upper Willamette River winter steelhead. *Id.* According to Federal Defendants, it follows that if the Corps and FWS do not fund these activities, they do not form the basis of the action subject to consultation with NMFS.

Plaintiffs respond that funding is not the only prerequisite for a causal role in their injuries. ESA regulations define federal agency "action" under ESA Section

7(a)(2) to include “the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid,” and actions that “directly or indirectly caus[e] modifications to the land, water, or air.” 50 C.F.R. § 402.02(c)-(d).

Here, the record is that the Corps owns the land on which the South Santiam hatchery was built; owns buildings or facilities within the South Santiam hatchery; and “has executed licenses, special use permits or other instruments that allow ODFW to use land, buildings or facilities, or conduct operations, at the South Santiam hatchery.” *See* Second Am. Compl. (“SAC”) ¶ 33, ECF No. 46; Fed. Defs.’ Answer (“Answer”) ¶ 33, ECF No. 56. Moreover, Federal Defendants’ Answer states that the Corps owns the Foster Fish Facility, and has executed licenses, special use permits, or other instruments to allow ODFW to use the facility. SAC ¶ 34; Answer ¶ 34.

The Corps also owns the land on which the Minto Fish Facility was built; owns buildings or facilities there; and has entered contracts, leases, special use permits, or other instruments to allow ODFW to use facilities; and conduct operations at that facility. SAC ¶ 35; Answer ¶ 35. Thus, Federal Defendants admit that the Corps owns and has leased to ODFW physical infrastructure that enables breeding and release of hatchery summer steelhead into the North and South Santiam River basins. Therefore, the Court finds that the Corps has a significant role in enabling and facilitating the actions that injure Plaintiffs, establishing an injury traceable to the Corps.

In contrast, the Court finds (and Plaintiffs concede) that Defendant FWS does not fund release of summer steelhead into any of the waters at issue in this case that

are within the winter steelhead DPS. Nor does FWS provide infrastructure enabling or facilitating the action that has injured Plaintiffs. The Court finds that Plaintiffs have not demonstrated an injury “fairly traceable” to FWS, therefore, Plaintiffs do not have standing to pursue an ESA Section 7 claim against FWS. Accordingly, Plaintiffs’ ESA Section 7 claim against FWS is DISMISSED.

B. Redressability

Federal Defendants also assert that even if Plaintiffs’ injuries are fairly traceable to them, no order of this Court could redress the injury. Fed. Defs.’ Reply at 3-4. Federal Defendants claim that Plaintiffs do not directly challenge or seek vacatur of any license or contracts in their Second Amended Complaint or motion for summary judgment, so even if the Court finds a violation, the Court cannot enjoin their use. Federal Defendants assert that the license granted to ODFW to use the South Santiam Hatchery and the contract for operation and maintenance of the Minto and Foster Fish Facilities cover all hatchery programs that are not part of the action subject to the consultation challenged here, so such an injunction would not be “narrowly tailored.”

The record is that, while the Corps owns and leases to ODFW the facilities ODFW uses to hatch and release summer steelhead, the Corps does not fund summer steelhead production at any of the hatcheries, even though its contract with ODFW is to use the hatchery facilities for ODFW’s provision of spring Chinook *and* summer steelhead. *See* USACE AR 8824 (2019 contract for Willamette Valley Project Hatcheries for spring Chinook and summer steelhead programs); USACE AR 8825

(“Consists of [operations and maintenance] for four Willamette Valley Project Hatcheries,” including Minto and Foster Fish Facilities); USACE AR 8849 (performance work statement for Willamette Valley Project Hatcheries).

Redressing Plaintiffs’ alleged injury requires ending releases of hatchery summer steelhead into the winter steelhead distinct population segment. Sec. Am. Compl., ECF No. 46, Relief Requested ¶ 4. But the relief to which Plaintiffs would be entitled for their claim *against the Corps*—a court order declaring that the Corps has violated its ESA obligation to avoid jeopardy, *see id.*, Relief Requested ¶ 1—would not effectuate that result.

That is because the Corps has not been involved with funding the production or release of summer steelhead. The evidence in the record is that, under the contract, the Corps pays for operation and maintenance costs at each facility corresponding to its proportion to the amount of production it funds of spring Chinook and summer steelhead. USACE AR 8849–50. However, because the Corps does not fund summer steelhead production for release into the North and South Santiam River, its portion of the operation and maintenance costs for the South Santiam Hatchery, Foster Fish Facility, and Minto Fish Facility corresponds to its funding of spring Chinook production *only*—not summer steelhead. USACE AR 8850, 8854–55.

The Corps maintains discretion to fund production of summer steelhead only at the Willamette Hatchery for release into the Middle Fork Willamette River. USACE AR 8854–55. On this record, the Middle Fork Willamette River is not within the winter steelhead population area involved in this lawsuit. *See* NOAA AR 2030

(describing the four winter steelhead population segments to be in the Molalla, North Santiam, South Santiam, and Calapooia River basins); Plfs.’ MSJ at 3.

Plaintiffs do not directly challenge or seek vacatur of any license or contracts in their Second Amended Complaint or opening brief. And issuing such an order is not relief narrowly tailored, where the Corps’ licenses and contracts relate to more than production of summer steelhead, and where such contracts and licenses cover hatchery programs that are not part of the action subject to the consultation challenged here. *See Nat’l Wildlife Fed’n v. NMFS*, 422 F.3d 782, 800 (9th Cir. 2005). In sum, it “conjectural” whether the activity that affects Plaintiffs—ODFW’s production and release of hatchery summer steelhead—“will be altered or affected by” any relief Plaintiffs could obtain against the Corps. *Lujan*, 504 U.S. at 571 (1992). Because Plaintiffs’ claim against the Corps is not redressable, Plaintiffs lack standing to pursue their ESA Section 7 substantive jeopardy claims against the Corps. Therefore, Plaintiffs’ claims against the Corps are DISMISSED. The remaining Defendants are NFMS and ODFW.

PRELIMINARY ISSUES

As an initial matter, Plaintiffs move to strike declarations not part of the administrative record referenced in Defendant ODFW’s briefing. *See* Plfs.’ Resp. at 4 (moving to strike ECF Nos. 60, 61). The Court GRANTS the motion in part. Those declarations are excluded, and the Court does not consider that evidence in reaching its decision. However, to the extent the information is helpful to the parties’ determinations about the appropriate remedy in this case, the Court sees no error in

such the parties' use for that purpose. The Court notes that earlier in this case, it allowed Plaintiffs to supplement the record. ECF No. 36. Upon further review of the claims and related arguments, the Court declines to consider that evidence in reaching its decision about the legal claims presented. Plaintiffs also move to file an untimely reply brief. ECF No. 68. The motion is granted.

MERITS DISCUSSION

I. CLAIMS UNDER THE APA

Federal Defendants assert that Plaintiffs amended their pleading to eliminate their "APA claim" and thus Plaintiffs no longer have "a cognizable basis to challenge NMFS's BiOp." Fed. Def. MSJ at 13.

The Court finds that Plaintiffs did not eliminate their APA claim. In the second amended complaint, Plaintiffs allege: "The BiOp is final agency action subject to judicial review under the APA. 5 U.S.C. §§ 704, 702; *Bennett v. Spear*, 520 U.S. 154, 178 (1997)." SAC at ¶ 5. Plaintiffs further allege: "The BiOp is also arbitrary, capricious, and not in accordance with law." *Id.* ¶ 47. That is the well-known standard articulated under the APA. Plaintiffs properly challenge the BiOp under the APA.

II. BEST SCIENTIFIC DATA

Plaintiffs assert that the BiOp failed to use "best scientific evidence" in four categories: (1) in assessing the environmental baseline; (2) in assessing the summer steelhead population data; (3) in assessing the residual summer steelhead data; and (4) in addressing effect of fishing. *See* Plfs.' MSJ at 12-19.

The ESA requires an agency to use “the best scientific and commercial data available” when formulating a BiOp. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(g)(8). This standard does not require the agency to “conduct new tests or make decisions on data that does not yet exist.” *San Luis & Delta–Mendota Water Authority v. Locke*, 776 F.3d 971, 996 (9th Cir.2014) (citing *Am. Wildlands v. Kempthorne*, 530 F.3d 991, 998–99 (D.C.Cir.2008)). Rather, “[t]he best available data requirement ‘merely prohibits [an agency] from disregarding available scientific evidence that is in some way better than the evidence [it] relies on.’” *Kern Cnty. Farm Bureau v. Allen*, 450 F.3d 1072, 1080 (9th Cir.2006) (quoting *Sw. Ctr. for Biological Diversity v. Babbitt*, 215 F.3d 58, 60 (D.C.Cir.2000)); *see also Locke*, 776 F.3d at 995 (“Moreover, if the only available data is weak, and thus not dispositive, an agency's reliance on such data does not render the agency's determination arbitrary and capricious” (quotations and citations omitted)). “An agency complies with the best available science standard so long as it does not ignore available studies, even if it disagrees with or discredits them.” *Locke*, 776 F.3d at 995; *Kern Cnty.*, 450 F.3d at 1080-81 (“Essentially, FWS ‘cannot ignore available biological information.’”) (quoting *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir.1988)).

A. *Assessing the Environmental Baseline*

1. Background on Term “Environmental Baseline”

The “environmental baseline” is the condition of the listed species or its critical habitat “without the consequences ... caused by the proposed action.” 50 C.F.R. § 402.02. It includes “the past and present impacts of all Federal, State, or private

actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early [S]ection 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process.” *Id.*

Under ESA Section 7(a)(2), a BiOp must evaluate “how the [proposed] agency action affects the species or its critical habitat,” 16 U.S.C. § 1536(b)(3)(A) (emphasis added), and the consulting agency must make a jeopardy finding only if a species’ likelihood of survival and recovery in the wild are “‘appreciably’ diminished by the [action].” *Salmon Spawning & Recovery All. v. NMFS*, 342 F. App’x 336, 338 (9th Cir. 2009) (citation omitted).

2. Discussion

Plaintiffs argue that the BiOp did not use the best scientific data to fully evaluate how the proposed action, in combination with the degraded environmental baseline from dams and poor water quality, harms winter steelhead. Plfs.’ MSJ at 13-14.

Under the above standard, NMFS must analyze the effects of the proposed agency action against the existing baseline condition for winter steelhead in the Upper Willamette River. *See* 50 C.F.R. § 402.14(g)(2), (g)(4). The relevant inquiry under ESA Section 7(a)(2) is not whether the species and its habitat continue to suffer adverse effects from other actions, such as dams, development, or climate change, but rather whether, against that backdrop, the proposed agency action under review

“place[s] the existence of the species in jeopardy.” *Selkirk Conservation All. v. Forsgren*, 336 F.3d 944, 957 (9th Cir. 2003).

Concerning the dams, Plaintiffs point to evidence that dams block access to 33% of historic habitat; have “reduced the amount and complexity of juvenile rearing habitat” downstream; and have “significantly reduced” large woody debris, which is “essential to the creation and maintenance of habitat” for winter steelhead. *Id.* at 13 (citing NOAA AR 2050).

As to water quality, Plaintiffs state that the BiOp did not take into consideration that water quality below the dams is poor and that the rivers and certain tributaries are “water quality limited” for temperature and dissolved oxygen. *Id.* (citing NOAA AR 14382). The rivers and tributaries also lack riparian shade and adjacent lands have “poor agricultural and forestry practices.” NOAA AR 14379–80. Plaintiffs point to where NMFS noted in 2015, “[m]uch of the accessible habitat [for winter steelhead] ... in the North and South Santiam Rivers is degraded and under continued development pressure.” NOAA AR 13928.

Plaintiffs assert that the BiOp did not use the best scientific evidence to evaluate the effect of hatchery fish against the backdrop of the above-described degraded environmental baseline (from dams and poor water quality) to address how the agency action harms (1) incubating winter steelhead eggs; (2) rearing juvenile winter steelhead; and (3) adult winter steelhead.

State and Federal Defendants maintain that NMFS thoroughly addressed the environmental baseline in the BiOp, including providing scientific evidence on the

effects of the Willamette Valley Project dams and water quality on winter steelhead and their available habitat. Fed. Def. MSJ at 14-17; ODFW MSJ at 10-12. All Defendants assert that Plaintiffs wrongfully focus on the ecological areas below the dams, rather than all river systems where winter steelhead are found. Fed. Def. MSJ at 15; ODFW MSJ at 10.

a. Winter Steelhead Eggs

Plaintiffs maintain that the BiOp dismisses how the degraded baseline harms incubating winter steelhead eggs, specifically, where the BiOp states that because winter steelhead spawning is widespread through mainstream rivers and in tributaries, “[m]ost of the incubating eggs are not exposed to unnatural conditions.” Plfs.’ MSJ at 14 (citing NOAA AR 2055).

Discussing fish other than the winter steelhead population at issue here, the BiOp reports that “[i]f the eggs were laid in the tributaries where no dams occur or in areas upstream of the dams, water quality (e.g., temperatures and streamflow) conditions are more natural and eggs incubating in the gravel have relatively high survival *compared to areas directly below the dams.*” *Id.* (emphasis added).

The BiOp then also addresses how dam operations impair habitat below the dams in the North and South Santiam rivers by raising water temperature and altering water flow. *Id.* Also discussed are how those poor habitat conditions impact incubating winter steelhead eggs. *See* NOAA AR 2054-55, rearing; NOAA AR 2059-60, smolt emigration; NOAA AR 2069-71, upstream adult migration; NOAA AR 2073-75, and spawning, NOAA AR 2075-76.

All Defendants point out that the BiOp acknowledges that “[e]ggs incubating downstream of Federal dams in the North Santiam[and] South Santiam . . . rivers are impacted by altered water temperatures, elevated total dissolved gases, and altered river flows affecting their survival[.]” *See* Fed. Defs.’ MSJ at 16 (citing NOAA AR 2055. But the BiOp also explains that, “[f]or winter steelhead, the impacts on egg incubation are not as great [as they are for Chinook Salmon eggs] because spawning is widespread throughout the entire population’s range (mainstem rivers and all tributaries)” and because winter steelhead “spawn in late winter/early spring after the peak of winter storm events,” when water temperatures are low. *Id.*

The BiOp commits many paragraphs to discussing measurements of the impacts to the entire listed winter steelhead DPS (including two other winter steelhead populations not affected by dams). The BiOp acknowledges that water quality below the dams is poor, and that the dams “reduced the amount and complexity of juvenile rearing habitat for salmon and steelhead below the Federal dams.” NOAA AR 2050. The BiOp also provides historical information from past environmental baselines and explains that winter steelhead habitat conditions continue to be poor. NOAA AR 2054.

Although the BiOp discusses the downgraded habitat, the Court finds that the BiOp did not appropriately consider the effect on winter steelhead eggs in the Santiam basin area below the dams, the area where roughly 70% of the winter steelhead within the Distinct Population Segment inhabit. *Id.* Stating, in comparison, that the effect of the degraded baseline is “not as great” for winter

steelhead as it is for Chinook does not offer the thoughtful, added analysis that provides a full picture of how the degraded habitat effects the wild winter steelhead eggs. Even if the effect is “not as great,” as the “lethal” conditions are for Chinook Salmon, the BiOp should have considered evidence of the degraded habitat below the dams on the wild winter steelhead eggs, rather than conclude that most eggs are elsewhere.

b. Rearing Juvenile Winter Steelhead

For rearing juvenile winter steelhead, the BiOp states they rear “in headwater tributaries and upper portions of the subbasins for one to four years (most often two years) . . . [and] are susceptible to the same threats and limiting factors” as juvenile spring Chinook. NOAA AR 2060.

Plaintiffs assert that the discussion of those threats and factors focuses on spring Chinook rearing in the reservoirs and passage through dams, and that there is only one sentence in the BiOp acknowledging that downstream of the dams, where Plaintiffs allege winter steelhead rear: “most of the historic rearing habitat in side channels, backwater sloughs, and wetlands has been lost,” and, that, as a result, “[t]he development of the riparian area, streambank armoring, and disconnection of side channels has substantially reduced the[ir] rearing capacity” in the mainstem. Plfs.’ MSJ at 14; NOAA AR 2060. In Plaintiff’s view, the sentence does nothing to address the “consequences attributable” to degraded conditions on rearing success. *Id.*

The record is that the BiOp describes the environmental baseline with respect to juvenile winter steelhead rearing, including that winter steelhead rearing is degraded or lost habitat below the dams. NOAA AR 2060. It also appears to contradict Plaintiffs factual assertion that winter steelhead rear below the dams, stating that although winter steelhead “generally rear in the upper headwater areas, they are susceptible to the same threats and limiting factors that are affecting spring Chinook salmon juveniles,” including the loss of rearing habitat in “side channels, backwater sloughs, and wetlands.” NOAA AR 2060. The BiOp discusses the lifecycle of winter steelhead rearing, which happens when water is higher and cooler, compared to the season in which Chinook salmon rear, when water flow is lower and the water temperature is higher. NOAA AR 2058-60.

The Court finds BiOp’s discussion about the susceptibility of winter steelhead juveniles to “the same threats and limiting factors” affecting spring Chinook juveniles can count as consideration of the environmental baseline for winter steelhead. *See* NOAA 2027-28 (describing impaired downstream passage at dams, predation risks, and reduced flows and increased temperatures in mainstem during reservoir filling). Further, the BiOp goes on to describe the degraded conditions for rearing winter steelhead, independently of the threats it identified Chinook salmon. NOAA AR 2060.

Because the BiOp discussed the downgraded habitat as part of the environmental baseline, and Plaintiffs do not point to any evidence the BiOp failed to consider, the Court cannot say that the BiOp ignored any evidence it should have

considered in calculating the environmental baseline consequences on rearing winter steelhead, specifically. All Defendants are entitled to summary judgment on this argument.

c. Adult Winter Steelhead

Plaintiffs maintain that “adult freshwater residence” for winter steelhead matters because winter steelhead can be iteroparous—meaning, they will not die after returning to spawn. Plfs.’ MSJ at 15. (citing NOAA AR 2031). Plaintiffs argue that the BiOp does not use the best scientific evidence to analyze the effects of the degraded environmental baseline on iteroparous adult steelhead at all; it discusses effects only on spring Chinook. *Id.* (citing NOAA AR 2075).

ODFW explains that repeat spawning is not common among winter steelhead, citing NOAA 2031. ODFW MSJ at 12. ODFW points out that the BiOp reports that winter steelhead that *do* return to spawn as adults “usually spend one year post spawning in the ocean and re-enter fresh water to spawn again the following Spring.” *Id.* On that basis, ODFW asserts that the BiOp shows that winter steelhead do not remain in the stream for the year after spawning for the first time—they quickly migrate out to the ocean. *Id.* Plaintiffs’ argument appears to be that the BiOp should have analyzed the effects of the environmental baseline on these fish that return (and remain for some time) in the habitat at issue.

On this record, Plaintiff has not pointed to any evidence Defendants have failed to consider. NMFS must address the environmental baseline using the best scientific data available, but it need not create data where none exists. *See Native Fish Soc’y*

v. NMFS, 992 F. Supp. 2d 1095, 1111 (D. Or. 2014) (“[T]he ESA does not require NMFS to develop information, only to consider the best evidence available.” (citations omitted)). All Defendants are entitled to summary judgment on this point.

B. Summer Steelhead Population Data

Plaintiffs assert that the BiOp fails to provide a “detailed discussion of the effects of the action on [the] listed species,” 50 C.F.R. § 402.14(h)(iii), because it fails to disclose how many adult summer steelhead return each year to the Santiam River basin and remain in the rivers, interacting with winter steelhead. Plfs.’ MSJ at 15 (citing 50 C.F.R. § 402.14(h)(iii)). Plaintiffs maintain that the BiOp fails to identify or consider how many adult hatchery steelhead return each year to the Santiam River basin and remain in the rivers to interact with winter steelhead. *Id.* Plaintiffs cite to data in the administrative record and calculate their own return estimates, maintaining that NMFS failed to account for the effect of these returning hatchery fish. *Id.*

ODFW points out several studies that the BiOp relied on discussing evidence of returning summer steelhead and hybridization of summer and winter steelhead. One study conducted with data from 2009 to 2011 found “scant evidence for natural summer steelhead production in the North Santiam River and no evidence from the South Santiam River.” *Id.* at 13-14 (referencing NOAA 2124). ODFW also identifies where the BiOp cites to other studies, such as a two-year study showing that the percentage of tagged summer steelhead returning to the Santiam basin varied widely (from 25% to 42% of the total run in all basins). ODFW MSJ at 13 (citing NOAA 4345

(Table 1.12-2)). Also, one scientific method (on which Plaintiffs also rely) is called “the proportion of hatchery origin spawners” (“pHOS”), which is a method presented by NMFS to estimate the potential number of summer steelhead remaining in the Santiam basin that were not caught, trapped, or dead.

Federal Defendants point out that the BiOp states that the number of hatchery summer steelhead not caught or collected in fish traps in the North Santiam River was 752 fish in 2016, 52 fish in 2017, and 199 fish in 2018. Defs.’ MSJ, at 31; NOAA AR 2157.

The record is that the BiOp did not fail to provide a detailed discussion about returning summer steelhead and the possible effect of returning summer steelhead on the winter steelhead population. While Plaintiffs point to studies the BiOp *could have* included on the effect of returning of summer steelhead, the Court finds that Plaintiffs have not shown that NFMS “disregard[ed] available scientific evidence that is in some way better than the evidence [it] relie[d] on.” *Kern Cnty. Farm* 450 F.3d at 1080 (9th Cir.2006). All Defendants are entitled to summary judgment on this point.

C. Residual Summer Steelhead and Competition

Plaintiffs contend NMFS failed to adequately account for the effect of summer steelhead that fail to migrate to the ocean. Plfs.’ MSJ at 26. Plaintiffs cite to the 2014 Harnish Study for its conclusion that summer steelhead residualize at a minimum rate of 12.8%. *Id.* From that study, Plaintiffs calculate that 12.8% of the fish released from the North and South Santiam (15,488 fish) will residualize in

subbasins where winter steelhead populations are found. *Id.* Plaintiffs maintain that the BiOp incorrectly estimates that 9,680 will residualize—a number significantly lower than what Plaintiffs calculate based on the same data. Plfs.’ Resp. at 14.

Plaintiffs’ argument appears to be twofold. Plaintiffs’ initial argument is not that the BiOp failed to consider the best scientific data, but that it arrives at wrong calculations for the number of summer steelhead residualizing in the North and South Santiam rivers. As the Court understands it, Plaintiffs’ second and independent argument is that, even using the allegedly incorrect data, 9,680 residualized summer steelhead is still too many, and that NMFS failed to appropriately analyze the effects of such a large number of summer steelhead residualizing in areas populated by winter steelhead. *See* Plfs.’ Resp. at 15. Plaintiffs’ second argument is better addressed under the arbitrary and capricious standard and the Court will address it below.

The Court finds that the BiOp relies on the same 2014 Harnish study to which Plaintiffs cite. *See* NOAA AR 2152. Plaintiffs have not shown that NFMS “disregard[ed] available scientific evidence that is in some way better than the evidence [it] relie[d] on[.]” *Kern Cnty. Farm* 450 F.3d at 1080 (9th Cir.2006). On this record, the Court finds that the BiOp used best evidence in its evaluation of the effects on winter steelhead of having 9,690 summer steelhead residualize yearly in both the North and South Santiam Rivers. Plaintiffs point to no other evidence on which

NMFS should have relied. Defendants are entitled to summary judgment on this issue.

D. Fishing

Plaintiffs contend that NMFS failed to adequately consider the impact of fishing when considering the effects of the summer steelhead hatchery program on winter steelhead. Plfs.’ MSJ at 18. The BiOp must use the best scientific data to evaluate “cumulative effects” of releasing summer steelhead and “future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area.” 50 C.F.R. § 402.02.

Within the area, ODFW authorizes fishing for summer steelhead—that is the sole purpose of these hatchery fish releases. NOAA AR 4368. Fishing for summer steelhead “begins in March and extends through December.” *Id.*; NOAA AR 4350 n.3. The BiOp cites a “Fisheries Management and Evaluation Plan” for winter steelhead prepared 23 years ago and asserts fishing does not impede winter steelhead recovery “because all fisheries intercepting winter steelhead are entirely catch and release and overall impacts are less than 5% for each population.” NOAA AR 2010, 2037.

The BiOp found that “[t]he current exploitation rates on wild steelhead from sport fisheries are in the range of 0–3%.” NOAA AR 2053; *see also* NOAA AR 2073 (“For winter steelhead, all populations experience less than 5% impact from freshwater fisheries[.]”).

Plaintiffs assert that the BiOp should have relied on a different study that would put the impact around 8%, and that it should have considered how various methods of fishing adversely affect winter steelhead.

All Defendants point out that Plaintiffs cite to a study (Hooton (1987)) that found that an average of 8% of the winter steelhead *that are caught and released*—not 8% of the entire winter steelhead population—die because of fishing. Plfs.’ MSJ at 18 (citing NOAA AR SUP 478).

The Court has reviewed the evidence and finds that Plaintiffs have not shown how the reports they cite are the best available data that the agency should have relied on, or that the BiOp cited to incorrect data. In all, Defendants are entitled to summary judgment on Plaintiffs claims that NMFS failed to consider the best scientific and commercial data on fishing effects.

III. WHETHER BIOP IS ARBITRARY AND CAPRICIOUS

Stated above, a BiOp is arbitrary and capricious if an agency “entirely failed to consider an important aspect of the problem,” or “offered an explanation for its decision that runs counter to the evidence before the agency.” *Native Fish Soc’y*, 992 F. Supp. 2d at 1111; *Friends of Endangered Species v. Jantzen*, 760 F.2d 976, 980-81 (9th Cir.1985). “In the context of the ESA, the problem is whether a proposed project will cause jeopardy to a listed species[,] and any effect that is likely to adversely affect the species is plainly an important aspect of the problem.” *Native Fish Soc’y* 992 F. Supp. 2d at 1111 (cleaned up).

A. *Ecological Effects of Summer Steelhead on Winter Steelhead*

The BiOp must disclose all “effects of the action,” to add to the environmental baseline and cumulative effects. 50 C.F.R. §§ 402.14(g)(2), (3), (4). In challenging the BiOp’s analysis of ecological impacts of hatchery summer steelhead on winter steelhead, Plaintiffs contend that the BiOp “downplays predation by released summer steelhead yearlings” and adult summer steelhead on winter steelhead fry, Plfs.’ MSJ at 20-21. Plaintiffs also assert that the BiOp incorrectly concluded that competition between released summer steelhead yearlings and winter steelhead fry will have a “low effect” on winter steelhead, arguing that the BiOp ignored displacement of winter steelhead by residual hatchery steelhead. *Id.* at 21-22, 24-25. Finally, Plaintiffs contend that the BiOp’s Predation-Competition-Disease (“PCD”) Risk model used inappropriate inputs, *id.* at 22-23.

1. Predation

a. Predation of Winter Steelhead Eggs by Newly Released Hatchery Summer Steelhead

The parties do not disagree that summer steelhead are “piscovorous,” meaning that they prey on other steelhead. NOAA AR 2078, 2100. The BiOp states that predation effects are a risk to both Upper Willamette River Chinook and winter steelhead, but to varying degrees. NOAA AR 2180. The BiOp’s analysis estimates the extent of risk for each species from *all* the proposed hatchery programs combined and found that the greatest risks from predation are from hatchery steelhead on Chinook salmon fry. *Id.* Reportedly, “[r]isks to winter steelhead fry (age-0) are negligible due to their later emergence timing in late spring and early summer after

hatchery fish have emigrated to the ocean.” *Id.* The BiOp emphasizes that “[a]ge-0 steelhead are still incubating in redds [fish egg nests] in the gravel during the period of hatchery steelhead release and thus are not susceptible to predation.” *Id.*; USACE AR 6601 (winter steelhead peak spawning occurs in April or May); *id.* at 6648-50 (hatchery summer steelhead releases in the North Santiam and South Santiam Rivers occur in early-to-mid-April).

Plaintiffs disagree that winter steelhead are still incubating, asserting that winter steelhead fry *emerge* from gravels in April and that hatchery summer steelhead are released at the same time and eat the emerging winter steelhead fry. Plfs.’ MSJ at 20. But Plaintiffs maintain that the BiOp cited to the best available science on predation, a literature review by Naman and Sharpe (2012). But Plaintiffs argue that the BiOp fails to consider it carefully. *Id.* In Plaintiffs’ view, however, the review featured six different studies, and the BiOp did not focus on the one study most relevant to the situation in the Santiam basin. *Id.* at 20. Plaintiffs argue that the BiOp should have focused on the study that more closely resembles the physical and ecological setting of the South Santiam, where “heavy predation” can exist. Plfs.’ MSJ at 20.

Federal Defendants respond that Plaintiffs’ assertions about predation are highly generalized from the Naman and Sharpe literature review and assert that the study on which Plaintiffs focus is not akin to the situation in the Upper Willamette River. *See* Defs.’ MSJ at 27. Federal Defendants assert that the study that found a high predation rate by hatchery steelhead in the Trinity River in California effected

Chinook and coho salmon subyearlings, likely because the hatchery steelhead release date and release location, “directly adjacent to several thousand salmonid redds,” meant that there was “spatial and temporal overlap of predator and prey.” *Id.* (citing NOAA AR 6959 (emphasis added)). *See also* ODFW MSJ at 20 (providing similar assertions). Federal Defendants assert that things are different for winter steelhead, because of their later emergence, meaning that there is not the same spatial and temporal overlap between emerging winter steelhead and released summer hatchery steelhead as there is with the earlier-emerging Chinook salmon. Fed. Defs.’ Resp. at 18.

The bulk of the record is that, in the Santiam basin in the Upper Willamette River, hatchery steelhead are released earlier in time than when most of the winter steelhead fry are emerging, such that overlap is minimal. Winter steelhead eggs are still incubating when summer steelhead are released in April to May, and summer steelhead have already emigrated to the ocean by the time most winter steelhead fry emerge from the redds, which happens after the eggs have incubated for 1.5 to 4 months, or generally from June to August. NOAA AR 2180; *see also* NOAA AR 10957 (observing peak number of winter steelhead redds in the South Santiam River in mid-April 2016 and early May 2017); NOAA AR 14392 (winter steelhead fry emerge “8–9 weeks after spawning” from June to August); USACE AR 6601-02 (winter steelhead peak spawning occurs in April or May, and peak intra-gravel development occurs from April to July); USACE AR 6602 (“Depending upon water temperature, steelhead eggs may incubate in redds for 1.5 to 4 months before hatching.”); USACE AR 6648-

50 (hatchery summer steelhead releases in the North and South Santiam Rivers occur in early-to mid-April).

The record shows that the situation in the Upper Willamette River is not exactly like the system observed in the Naman report, which involved other salmonoids that emerge earlier than winter steelhead—and closer in time to the release of hatchery fish.

Given the BiOp's explanation that hatchery summer steelhead releases occur, for the most part, when winter steelhead are still incubating, Plaintiffs fail to explain how the findings from the Naman report negate the BiOp's conclusion that the risk of hatchery summer steelhead preying on winter steelhead fry is negligible. The BiOp's conclusions on this issue are neither arbitrary nor capricious, but rather, rational and supported by the record. All Defendants are entitled to summary judgment on this issue.

b. Predation on Newly Emerged/Rearing Winter

Steelhead by Residualized Summer Steelhead

Plaintiffs next predation argument is that the BiOp failed to consider that adult summer steelhead predation on newly emerged and rearing winter steelhead occurs by residualized summer steelhead. Plfs.' MSJ at 21.

As described above in Section II.C., the record is that the BiOp acknowledged that “[a] small proportion of hatchery steelhead (<10%) are likely to residualize near the hatchery and never emigrate to the ocean,” and that those summer steelhead prey on winter steelhead. NOAA AR 2100; *see also* NOAA AR 2178-79, 2182. The BiOp

states that “residual steelhead can continue to prey upon age-0 salmon and steelhead fry,” but concludes that predation losses are “expected to be very low because of the low proportion of available habitat affected by residual steelhead below the hatchery facilities.” NOAA AR 2182. Further, the BiOp explains that the risk that does exist can be reduced through hatchery operational measures including those that have been adopted, such as volitional releases and releasing fish at the smolt stage. NOAA 2092-93. While Plaintiff was able to demonstrate that the BiOp failed to consider residualized summer steelhead competing with winter steelhead

Plaintiff has failed to show that the BiOp was not rational in its analysis and conclusion of the ecological effects of predation and all Defendants are entitled to summary judgment on this point.

2. Competition: Yearling Summer Steelhead

Plaintiffs explain that the EIS issued in this case states “competition” for rearing and feeding habitat with released yearling summer steelhead is a “key limiting factor” for winter steelhead. Plfs.’ MSJ at 21 (citing NOAA AR 14475.). The BiOp also notes this. NOAA AR 2045. Plaintiffs assert that the EIS also notes summer steelhead yearlings released earlier than when winter steelhead fry emerge “may have a competitive advantage in occupying choice feeding territories prior to the emergence of winter steelhead.” *Id.* In Plaintiffs’ view, the BiOp’s “low effect” determination does not square with that information.

The EIS states that “when large hatchery releases result in the localized carrying capacity to be exceeded, which is presumed to be the case in [UWR] sub-

basins, there is increased potential for density dependent mortality on wild fish for early life stages.” *Id.* Further, “[t]he overlap in space and time, combined with the competitive advantage that residual hatchery steelhead appear to have over naturally produced [winter steelhead], increases the potential for negative ecological interactions that could have population-level effects on the wild winter steelhead population of the South Santiam River.” NOAA AR 14476. The EIS also notes summer steelhead yearlings and emergent winter steelhead overlap in 27% of winter steelhead critical habitat. NOAA AR 14443.

For its part, the BiOp echoes those findings. For example, it reports that “competition and a corresponding reduction in productivity and survival may result from direct interactions when hatchery-origin fish interfere with the accessibility to limited resources by natural-origin fish or through indirect means, when the utilization of a limited resource by hatchery fish reduces the amount available for fish from the natural population.” NOAA AR 2089. For wild winter steelhead, the BiOp states that the risk from competition with hatchery fish is a “high risk.” *Id.*

While the degree of competition varies based on fish population density and habitat, the BiOp states that “naturally produced fish may be competitively displaced by hatchery fish early in life, especially when hatchery fish are more numerous, are of equal or greater size, when hatchery fish take up residency before naturally produced fry emerge from redds, and if hatchery fish residualize.” NOAA AR 2090.

Elsewhere, the BiOp notes that competition arises when the spatial overlap between the releases of hatchery fish (Chinook salmon, summer steelhead smolts,

and hatchery rainbow trout) and natural-origin salmon and steelhead is concentrated in the mainstem rivers below the federal dams where hatchery fish are released.

Nevertheless, the BiOp finds that release of hatchery summer steelhead will have a “low” effect on competition with winter steelhead, because “most of the habitat where natural origin fish rear throughout the population areas are not exposed to releases of hatchery fish.” NOAA AR 2100.

That finding does not square with other portions of the record. For example, Plaintiffs point out that around 70% of winter steelhead adults in the distinct population segment return to the North and South Santiam basins, NOAA AR 10954, and most seek to reach the “highest quality rearing habitat” below the dams, NOAA AR 14476. Some of the highest density of winter steelhead redds are found “directly below Foster Dam, near the South Santiam Hatchery.” NOAA AR 10957, 10976 (map). This is also precisely where summer steelhead are released, and adults return.

Competition with residualized summer steelhead is also a problem. Plaintiffs point out, even the 9,690 residual summer steelhead (discussed above in Section II.C.) in each river dwarfs the number of recent adult winter steelhead returns. *See* NOAA AR 14392 (“the 10-year average for returning adults [to the winter steelhead DPS as a whole] would be an average 3,409.”); NOAA AR 2031 (“[i]n the last 10 years (2007-2016), winter steelhead spawners upstream of Willamette Falls have ... averaged 3,140”). However, the BiOp appears to account for this in determining that competition between residualized hatchery fish and winter steelhead would be low:

The hatchery summer steelhead program has risk with smolts residualizing below the point of release and never emigrating as smolts to the ocean . . . Management of the hatchery steelhead program strives to release fish that are physiologically smolting and will actively emigrate. However, even under this management approach, there is always a proportion of fish that do not emigrate. The proposed action continues to volitionally release hatchery steelhead over an extended period of time, with non-migrants removed from the hatchery facilities and stocked into standing water bodies where interactions with natural-origin salmon and steelhead will not occur.

However, even under this proposed action it is still expected residualism of hatchery steelhead will occur at a low level, with densities being highest near the hatchery facility and decreasing further downstream.

. . .

The hatchery steelhead were larger than their natural-origin counterparts of the same age class. Hatchery steelhead were observed emigrating from South Santiam hatchery to Willamette Falls over a period of two to four weeks. However, only 25% (approximately) of the radio tagged hatchery steelhead were detected at Willamette Falls, which raises concerns about the efficacy of the methods used to derive the estimates. A much greater proportion of hatchery steelhead should have been observed emigrating. It is expected the greatest ecological interactions between hatchery steelhead and natural-origin salmon and steelhead occurs near the hatchery facilities, where the densities of hatchery steelhead are greatest. ***The actual fish densities in these areas are not known, but likely to be less than habitat carrying capacity. If this is the case, competition among the species is not likely;*** especially since hatchery steelhead are larger in size and would prefer different microhabitat types. (Kruzic 1998).

NOAA AR 2178-79 (emphasis added).

From that, the BiOp shows a cogent discussion about the effects of residualism of hatchery steelhead on winter steelhead, finding that competition among the species is “not likely” *if fish density is less than habitat carrying capacity. Id.* In that “if” instance, the BiOp does not discuss the effect of a scenario where fish density is

greater than habitat carrying capacity. Further, the BiOp finds that direct competition will occur in areas where summer steelhead residualize:

A proportion of salmon and steelhead smolts released from a hatchery may not migrate to the ocean but rather reside for a period of time in the vicinity of the release point. ***These non-migratory smolts (residuals) may directly compete for food and space with natural-origin juvenile salmonids of similar age. They also may prey on younger, smaller-sized juvenile salmonids.*** This behavior has been studied and observed most frequently in the case of hatchery steelhead.

NOAA AR 2090 (emphasis added).

In relation to this discussion, the BiOp emphasizes several times that the data and information requires further investigation and study. *See* NOAA AR 2090 (monitoring is necessary); *id.* (“the issue of residualism has not been widely investigated); *id.* at 2179 (“The actual fish densities in these areas [where residualism may occur] are not known[.]”).

Finally, the PCD Risk model simulated annual losses of 1,130 juvenile winter steelhead (34 adult fish equivalents) in the Upper Willamette River from both competition and predation by all hatchery spring Chinook and summer steelhead. *See* Fed. Defs’ MSJ at 28 (citing NOAA AR 2178). Most of these losses were caused by competition, rather than predation. NOAA AR 2177.

The Court finds that the BiOp’s conclusion that competition is not likely to occur is not supported by the record. Therefore, the Court finds it arbitrary and capricious to conclude that the effects of competition from hatchery steelhead on winter steelhead is “low.” This conclusion runs counter to the evidence before the agency.

3. The “PCD Risk Model”

Plaintiffs challenge the BiOp’s use of the Predation-Competition-Disease risk model (“PCD Risk model”) used in the analysis and criticize the individual data used in the inputs. Plfs.’ MSJ at 22-23; Plfs.’ Resp. at 21.

The BiOp assesses the effects of competition between hatchery summer steelhead and winter steelhead primarily through the PCD Risk model. NOAA AR 2166-79. The PCD Risk model simulates competition for food. In the model, “a competition event means that a fish does not eat for a day and suffers some weight loss as a result.” NOAA AR 2168. Repeated competitive interactions over the course of the four-day interaction period for summer steelhead and winter steelhead in the North Santiam and South Santiam Rivers will cause a given fish to lose a small percentage of weight. NOAA AR 2168, 2170. The model then reports “competition equivalent’ deaths”—the number of fish that would die if the total weight loss of all winter steelhead due to competitive interactions with hatchery summer steelhead “were concentrated into individual fish to reach lethal levels[.]” NOAA AR 2168.

The PCD Risk model simulated annual losses of 1,130 juvenile winter steelhead (34 adult fish equivalents) in the Upper Willamette River from all hatchery releases (spring Chinook and summer steelhead). NOAA AR 2178. Based on the model’s results, the BiOp found that most of the ecological effects of hatchery summer steelhead on winter steelhead occurred through competition (rather than through predation), largely because hatchery summer steelhead are released in April, “when

water temperatures are higher and metabolism is also higher resulting in the need for greater food consumption.” NOAA AR 2177.

The Court has searchingly reviewed the BiOp’s inputs for the PCD Risk model. Although Plaintiffs challenge the BiOp’s use of certain data—the number of days of interaction, the predator-to-prey length ratio for predation, and the piscivory rate, Plfs.’ MSJ at 22-23 (citing NOAA AR 2178,14 2169)—NMFS had a rational basis for using each of these inputs.

First, the BiOp explains that hatchery and natural-origin fish interactions in the tributary mainstem rivers are “expected to last three to [ten] days” because “[t]he vast majority of the hatchery smolts emigrate” within seven to ten days, based on the best scientific data available. NOAA AR 2177 (citing Schreck et al. (1994)). Given this information, the BiOp’s use of four days of interaction for steelhead in those areas is reasonable. NOAA AR 2170.

Second, the predator-to-prey length ratio comes from Daly et al. (2014), NOAA AR 2169 (citing Daly et al. (2014)), and Plaintiffs do not explain why the ratio used is inappropriate or point to available scientific data NMFS did not consider.

Third, although not listed with other piscivory rates values provided in Table 29 of the BiOp, *see* NOAA AR 2169, the PCD Risk model used a piscivory rate of 0.002 for summer steelhead predation on winter steelhead fry. NMFS determined that summer steelhead predation on winter steelhead fry is very low because the fish are not present together (spatially or temporally) to any meaningful degree. This finding

is consistent with the Court’s analysis on Plaintiffs’ claims relating to predation in Section III.A.1.

In sum, NMFS used rational assumptions in the PCD Risk Model that reasonably estimate the effects of hatchery summer steelhead predation and competition on winter steelhead. Its analysis was not arbitrary and capricious. In this section, the Court understands Plaintiffs’ dispute to be with the BiOp’s use of the PCD Risk Model and data. Therefore, a finding that the use of the PCD Risk Model and Data is not arbitrary and capricious does not upend the Court’s resolution of Plaintiffs’ other claim that competition would jeopardize the species. All Defendants are entitled to summary judgment on this point.

4. Displacement

The BiOp notes “[n]aturally produced fish may be competitively displaced by hatchery fish early in life, especially when hatchery fish are more numerous, are of equal or greater size, when hatchery fish take up residency before naturally produced fish emerge from redds and if hatchery fish residualize.” NOAA AR 2089. Plaintiffs assert that the BiOp does not directly address or resolve the issue of displacement. Plfs.’ MSJ at 24. Rather, it cites a general study noting displacement may lead to “abandonment of advantageous feeding stations, or premature out-migration.” *Id.* (citing NOAA AR 2090). Plaintiffs argue that it never squarely addresses that *every* factor in favor of showing significant displacement of winter steelhead is present in this case, and thus should have been fully evaluated.

The factors Plaintiffs cite to include: (1) summer steelhead yearlings and adults which are more numerous than winter steelhead in the habitat immediately below the dams; (2) summer steelhead yearlings which are larger than emergent winter steelhead fry, giving them “a size advantage,” NOAA AR 4341, 4349, 4371; and (3) summer steelhead which residualize in the same habitat winter steelhead seek. NOAA AR 14476, 2152. In Plaintiffs view, these factors converge to show that significant displacement occurs, but the BiOp fails to address or evaluate this problem. Plfs.’ MSJ at 25.

Federal Defendants do not point to any text in the BiOp showing that it considered the issue. ODFW asserts that Plaintiffs rely on a flawed study and ignore improvements ODFW has implemented in its hatchery program to reduce interactions between summer steelhead and winter steelhead. ODFW MSJ at 23.

The BiOp notes “[n]aturally produced fish may be competitively displaced by hatchery fish early in life, especially when hatchery fish are more numerous, are of equal or greater size, when hatchery fish take up residency before naturally produced fish emerge from redds, and if hatchery fish residualize.” NOAA AR 2089. The BiOp cites Mapes (2017), who performed spawning surveys for winter steelhead redds in the South Santiam River. NOAA AR 2139. Mapes found winter steelhead “[r]edd density was highest in the survey section directly below Foster Dam, near the South Santiam Hatchery.” NOAA AR 10957, 10976. Further, the “highest quality rearing habitat” within the otherwise degraded baseline is immediately below the dams.

NOAA AR 14476. At the same time, summer steelhead yearlings are released into the same areas, and adults return to or never left the same areas: they “migrate to the upper most extent of volitional migration,” NOAA AR 2138, and they residualize “below the hatchery facilities in the North and South Santiam rivers.” NOAA AR 2152.

Plaintiffs point to the EIS, which states that “[i]n 2014, snorkeling revealed considerable overlap of habitat use (in space and time) by residual hatchery steelhead and naturally produced [winter steelhead] in the South Santiam River.” NOAA AR 14476. It states summer steelhead “may be displacing naturally produced [winter steelhead] from the highest quality rearing habitat into suboptimal habitat, which could also negatively affect the wild population.” *Id.* It notes “the density of naturally produced [winter steelhead] generally increased with increasing distance from the hatchery” in the South Santiam River, suggesting they were displaced by juvenile or residualized summer steelhead. *Id.* The Court finds that Plaintiffs have shown that the agency failed to consider that displacement is important aspect of the problem involved with the proposed action.

B. Climate Change

Plaintiffs assert that the BiOp fails to evaluate how the projections of “serious implications” from climate change will affect already depressed winter steelhead populations in degraded habitat. Plfs.’ MSJ at 27-28. In Plaintiffs’ view, the BiOp fails to “put into the calculus” the significantly-depressed winter steelhead population

numbers, and assess whether winter steelhead can sustain impacts from release of hatchery summer steelhead “on top of potential climate change effects.” *Id.* at 28

Federal Defendants respond that the BiOp accounted for climate change both as a cumulative effect of future state or private activities reasonably certain to occur within the action area, and as a baseline condition affecting the current range-wide status of listed Upper Willamette River winter steelhead, citing various studies in the record. Fed. Defs.’ MSJ at 34 (citing NOAA AR 2047-49; 2190-91).

The BiOp states climate change is “projected to have serious negative implications” for salmon and steelhead in the Columbia River basin generally, NOAA AR 2047, and conditions in the UWR “are going to change substantially” in the next 100 years, including higher air temperatures, less precipitation, less snow, earlier snowmelt, and possible storm increases. NOAA AR 2047-48 (citing Doppelt 2009)). The BiOp anticipates climate change will cause even greater increases in stream temperatures, in the range of 2° F to 4° F generally and 4° F to 6° F in the summer, NOAA AR 2048, which will make rearing juvenile steelhead more susceptible to disease and stress. *See* NOAA AR 15584.

Further, BiOp describes that the “expected effects of climate change will only worsen” key limiting factors related to freshwater habitat, including “summer time water quality issues and poor overwinter survival of fry.” NOAA AR 2049. Lower “summer time streamflows with increasing water temperatures” will “limit[] production of juvenile salmon and steelhead,” and “[i]ncreases in precipitation during the winter and more frequent and intense storms will reduce egg-to-fry survival of

juvenile salmon and steelhead” as well as “the overwinter survival of age-1 salmon and steelhead.” *Id.* For these reasons, the BiOp “anticipated that there will be negative effects of climate change on the distribution, abundance, productivity, and diversity of ESA-listed species and their habitat in the Upper Willamette basin[.]” NOAA AR 2047. Ultimately, the BiOp states that “the effects of climate change on salmon and steelhead in the Columbia River basin are now detrimental and contribute to worsening the key limiting factors and threats for these species.” NOAA AR 2049.

Despite resolving that the effects of climate change are “detrimental” and contribute to worsening the existing key limiting factors, the BiOp concludes that winter steelhead “will [be] impacted by climate change,” but that “due to their life history and distribution, effects are not likely to be as extreme as for Spring Chinook.” NOAA AR 2190. The BiOp explains that winter steelhead have higher temperature tolerances that will “enable juvenile fish to utilize habitats that will be increasingly affected by climate change.”

The Court agrees with Plaintiffs that this explanation fails to evaluate the consequences to winter steelhead of projected worsening conditions. And it also fails to put into the calculus the winter steelhead population numbers and assess whether they can sustain impacts from the release of hatchery summer steelhead on top of climate change effects. While winter steelhead may be able to tolerate change better than the Chinook, that explanation is insufficient to describe the effect of climate

change on the winter steelhead. Plaintiffs are entitled to summary judgment on this point.

IV. No Jeopardy Finding

A biological opinion provides the consulting agency's expert opinion on whether the proposed action is likely to "jeopardize the continued existence of" any listed species or result in the destruction or adverse modification of its designated critical habitat. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14. Under the ESA and its regulations, not all harm to listed species rises to the level of causing "jeopardy." Rather, to "jeopardize the continued existence of" means to "engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." 50 C.F.R. § 402.02. If the consulting agency determines the proposed action is likely to jeopardize the listed species, then it must formulate a reasonable and prudent alternative. 16 U.S.C. § 1536(b)(3)(A).

In determining that an action is not likely to jeopardize the continued existence of a listed species, a BiOp may rely on mitigation measures if those measures constitute a "clear, definite commitment of resources," and are "under agency control or otherwise reasonably certain to occur." *Ctr. for Biological Diversity v. Bernhardt*, 982 F.3d 723, 743 (9th Cir. 2020). Further, "[t]he measures 'must be subject to deadlines or otherwise enforceable obligations; and most important, they must

address the threats to the species in a way that satisfies the jeopardy and adverse modification standards.” *Id.*

As a primary reasons for finding that the release of hatchery summer steelhead will not jeopardize winter steelhead, NMFS explained that the proposed action is mitigated by hatchery operational standards that have already been implemented in the Management Plan. NOAA 2009-10. Those operational standards or mitigation measures include (1) advancing summer steelhead spawn timing; (2) terminating “recycling” of returning summer steelhead for fishing opportunities in the North and South Santiam Rivers; (3) reducing the number of South Santiam releases; and (4) capping the management of the gene flow to less than 2% from hatchery summer steelhead into winter steelhead populations. *Id.*; NOAA 2010. (The Court notes that the 2% cap requirement is not a mitigation measure, but an operational requirement of the management plan, allegedly achievable via the first three mitigation measures.)

Plaintiffs assert that reliance on the three mitigation measures, and the 2% operational standard, is arbitrary and capricious. First, Plaintiffs contend that the 2% gene flow standard has not been and cannot be reliably met. Second, that advancing the spawn timing for summer steelhead is not certain to occur and that overlap is likely. Third, that there is no guarantee that recycling will actually end; and fourth, that the temporary reduction of released hatchery steelhead to 121,000 per river is just that—a temporary measure, not guaranteed to continue.

A. “Gene Flow” and “pHOS”

1. Background

Oversimplified, the crux of the parties' dispute on gene flow is whether management practices can realistically cap gene flow to 2%. That 2% cap is a requirement on which the BiOp's approval of the Management Plan is based. Explaining what "gene flow" is, the BiOp states that "[g]enetic impacts from hatchery programs are caused by gene flow (introgression) from hatchery fish into the naturally spawning population." NOAA 2146. Here, the gene flow quantifies the percentage of which the hatchery steelhead are passing down their genes into the winter steelhead population.

The BiOp explains that "pHOS" is different from gene flow. *Id.* It represents the census count of hatchery-origin spawners divided by the total number of spawners throughout the entire period of spawning for summer and winter steelhead, but pHOS makes no assumptions regarding the relative reproductive success of hatchery-origin fish. *Id.* In the absence of other information, pHOS is an estimate of maximum gene flow on the spawning grounds, and thus is a surrogate for gene flow. *Id.*

Hatchery summer steelhead can spawn naturally in the ESA-listed winter steelhead populations of the North Santiam and South Santiam. NOAA AR 2098. When summer-run and winter-run steelhead are present in the same area, they can spawn together resulting in a hybridization between run types, which risks a reduction in productivity. *Id.* Since summer steelhead do not occur naturally in the Upper Willamette, the BiOp characterizes their mating interaction as having "a negative effect on the listed DPS." NOAA AR 2099.

Nevertheless, the BiOp estimates that the temporal overlap in spawn timing is “low” between summer steelhead with winter steelhead. *Id.* As discussed above, hatchery summer steelhead in the UWR spawn from late November to February—earlier than winter steelhead, which spawn in March through June, with peak spawning in late April and early May. NOAA AR 2031; NOAA AR 2146. The environmental conditions in the Upper Willamette for summer steelhead spawning are sub-optimal, because of high water flow during November to February. NOAA AR 2146.

In contrast, the BiOp states that winter steelhead are adapted to spawn later in the season under more favorable environmental conditions. *Id.* Therefore, there is not complete overlap in spawning between the two runs, but a shorter period of overlap, so that even when pHOS is high, the BiOp explains that “it does not translate into significant numbers of hatchery summer steelhead mating with natural-origin winter steelhead.” *Id.*

Even so, the BiOp states that “any interbreeding” between the run types “would result in a negative effect on winter steelhead productivity and diversity.” *Id.* The hatchery summer steelhead program provides “no population viability benefits” and any effects of the program would be negative to the DPS. *Id.* Likewise, the BiOp relies on management guidance that propose that “any natural spawning by fish from these non-native steelhead may be considered unacceptable because of the potential genetic impacts on natural populations.” NOAA AR 2146

If the proportion of hatchery fish spawning in the natural environment (pHOS) is high, then the risk of summer steelhead spawning with winter steelhead is greater in the overlap period when both runs may spawn together. NOAA AR 2144. Even though data in the BiOp (see Figure 44 and 53) shows the overlap period to be minimal, if a lot of hatchery steelhead are present in the wild and spawn naturally, the risk of spawning with winter steelhead is higher than if few summer steelhead are available to spawn in the wild during the overlap period. *Id.*

As for how many hatchery steelhead are spawning at the same time as winter steelhead, the BiOp states that the “available information on pHOS of summer steelhead is poor due to the difficulty in conducting spawning surveys for steelhead during the period when summer steelhead spawn in December and January when higher flows and turbidity make it difficult to accurately observe and enumerate spawning redds.” *Id.* Because of this, spawning ground surveys for steelhead are not conducted regularly. *Id.*

2. Capping Gene Flow at 2%

The no jeopardy opinion relies on “managing gene flow (introgression)” from summer steelhead into winter steelhead “to less than 2%.” NOAA AR 2010. Plaintiffs assert that NMFS’s reliance on this standard is arbitrary and capricious for two reasons: first, data used in the “Scott-Gill Method” shows that the amount of hatchery fish spawning is likely exceeding (or will likely exceed) the max 2% gene flow standard. Second, regardless of data used in the Scott-Gill Method, NMFS and

ODFW found current gene flow cannot be confidently measured as to the recent progeny of summer steelhead that mated with winter steelhead. Plfs.’ MSJ at 29.

**a. Whether No Jeopardy Determination is Supported
by Gene-Flow Modeling Methodology**

It is true that the proposed action requires a standard maximum of 2% gene flow from summer steelhead into any winter steelhead population in the DPS. NOAA AR 2147. Exceeding that amount requires reinitiation of consultation. NMFS explains that, in the Upper Willamette, “genetic data is not available to estimate gene flow from summer steelhead to ESA listed winter steelhead; however, sufficient information is available to calculate gene flow from the demographic information presented in this opinion.” NOAA AR 2153.

Specifically, plaintiffs point to data in the record that calls into question whether the 2% standard has been or can be met, and the parties dedicate argument about which methodology the BiOp should have relied on, and over which methodology it did, in fact, rely on. Plaintiffs assert that one methodology is better than the other, because it provides more relevant data, and demonstrates the gene flow cannot be capped at 2%.

The BiOp describes at least two methodologies NMFS used to estimate the rate of gene flow in recent years: as mentioned, the “Scott-Gill” method, and the “Island Continent” method. The Court finds that either of those methods would constitute the best scientific and commercial data and that the agency’s use of the data in either is supportable.

i. Scott-Gill Methodology

Plaintiffs assert that the Scott-Gill method used flawed assumptions to calculate whether the 2% gene flow standard was already being met in the Upper Willamette River winter steelhead DPS. Plfs.’ MSJ at 29. Plaintiffs take issue with figures used for pHOS in the Scott-Gill analysis. NOAA AR 2010, 2153-54. Plaintiffs point out that the Scott-Gill analysis assumes an historic “range of pHOS values from 10% to 30% . . . to calculate gene flow . . .” *Id.* NOAA AR 2154.

In Plaintiffs view, that numerical assumption for historic pHOS value is flawed. Plfs.’ MSJ at 29-30. Plaintiffs point out that the record includes worksheets stating the “best estimated pHOS” levels in the DPS show that pHOS levels in the North Santiam were 62%, 26%, and 48% during 2012, 2013, and 2014, respectively. Plfs.’ MSJ at 29 (citing NMFS AR 17983-85, 17988; NOAA AR 17986).

In the South Santiam, Plaintiffs point out that the record shows that pHOS levels were 70%, 24%, and 59% during years 2014, 2015, and 2016, respectively. *Id.* (citing NOAA AR 17988). Therefore, Plaintiffs argue that those percentages for pHOS rates are much higher than the 10% to 30% percentages that the BiOp relied on in its model, and that the Scott-Gill results showing that gene flow can be capped at 2% cannot be relied on. Plaintiffs assert that, had the BiOp based its assumptions on different data, the gene flow rates would have been much greater than 2%.

ODFW explains that the data Plaintiffs cite to showing higher pHOS values is older data drawn from an era before ODFW had incorporated significant changes into its hatchery management plan. ODFW MSJ at 28. At any rate, ODFW seems to

agree with Plaintiffs that “[b]oth the Scott-Gill method and the pHOS approach rely on data that is difficult to regularly and reliably collect in the Upper Willamette Basin.” *Id.* at 27.

The Court finds that NMFS did not wrongfully ignore evidence in the record, nor can the Court say NMFS ignored an important aspect of the problem when it made scientific choices between various data points to use in its methodologies. Plaintiffs’ argument that NMFS’s choice of evidence in its calculations was arbitrary and capricious fails. However, the Court finds that NMFS’s ultimate conclusion of no jeopardy, drawn from the data, *is* arbitrary and capricious.

Using the Scott-Gill method, the BiOp estimates *current gene flow* in the North and South Santiam winter steelhead populations ranges from 1.8% to 5.7%, depending on pHOS, which varies annually. NOAA AR 2154. That generally exceeds the 2% current gene flow standard, which, based on this proposed management plan, would more likely than not trigger reinitiation of consultation. Therefore, the approval of the HGMP that requires gene flow capped at 2%, when the BiOp cannot demonstrate that the 2% standard is already met, is not supported. NMFS is entitled to choose a methodology to determine genetic effects, but the Court must ensure its choice is “supported by reasoned analysis.” *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 621 (9th Cir. 2014) (quoting *Ecology Ctr. v. Castaneda*, 574 F.3d 652, 665 (9th Cir. 2009))

**ii. Island-Continent Methodology; Uncertainty
in Data**

In response to Plaintiffs' arguments about the Scott-Gill methodology, ODFW asserts that the BiOp relied on other methodologies to estimate gene flow that support its no jeopardy conclusion, including the "Island-Continent Method." ODFW MSJ at 15; *see also* Fed. Defs.' Reply at 27-28. Responding, Plaintiffs assert that the Island-Continent method calculates a hatchery program's "lifetime" or "annual gene flow rate," not the "current gene flow" rate. Plfs.' Resp. at 28; NOAA AR 2158-59. Defendants assert that the resulting figures from the Island-Continent method support NMFS's no jeopardy determination, affirming that the requirement of the 2% gene flow maximum is met. ODFW MSJ at 28.

In the Island-Continent Methodology, the BiOp analyzes gene flow estimates from hatchery summer steelhead to winter steelhead populations. NOAA AR 2159-60; *see* NOAA AR 2160 (Figure 63). The data this method relies on comes from studies conducted in the North and South Santiam Rivers in 1986, 1987, 1990, 1997, 1998, 2003, 2005, 2007, 2009, and 2011. NOAA AR 13006-58 (Johnson et al. (2013)) (appendix). From that data, the BiOp formulated assumptions that provided an "annual gene flow estimate" of 0.6% and 1.4% for the South Santiam and North Santiam winter steelhead populations, respectively.

The years during which the samples were taken do not necessarily strike the court as "current" data. But whether it is scientifically significant that the gene flow rate is calculated as an "annual average rate" from that data, or a "current gene flow

rate” based on models like the Scott-Gill methodology, the Court cannot say, and scientific analysis is the realm of the agency.

What the Court does find is that there is a high level of uncertainty about what the current gene flow rate *is*, and that the data, on the whole, does not support the BiOp’s approval of the HGMP. Further, the Court takes into consideration that the BiOp says that “*any* interbreeding” between hatchery summer steelhead with the winter steelhead population would have a negative effect on the species. NOAA AR 2099 (emphasis added).

The BiOp states that, for the hatchery summer steelhead program, take caused by genetic effects of listed UWR winter steelhead occurs in the North Santiam and South Santiam rivers, through interbreeding between the hatchery and natural-origin fish. NOAA AR 2200.

The uncertainty that troubles the Court can be found in many references in the BiOp. For example, in the take analysis, NMFS explained that the take through genetic effects on winter steelhead “cannot be quantified because it cannot be reliably observed or monitored.” NOAA AR 2200. Elsewhere, NMFS states, “[w]e also know of no modelling that adequately simulates the phenomenon of summer steelhead spawning in the wild.” NOAA AR 2147. Further, that there is “a tremendous amount of uncertainty associated with the monitoring of pHOS.” NOAA AR 2154. Summarizing the three methods it used to calculate gene flow (including the Scott-Gill method and the Island-Continent method), the BiOp states that: it calculated gene flow in the range of zero to 1.8% (assuming 10% pHOS); gene flow increased to

5.7% in one model when pHOS was assumed to be 30%; “in recent years, pHOS has been near zero; and [the gene flow rate is] known to be much higher in 2004-2006. NOAA AR 2160. However, the Court cannot find recent data showing “near zero” figures. The parties have not pointed out anything in the administrative record.

NMFS also described the proposed action as including management of gene flow to less than 2% from hatchery summer steelhead into winter steelhead populations. NOAA 2010. But, the BiOp’s determination, drawn from a range of data does not demonstrate with certainty that gene flow is or can be accurately calculated to be under 2%. Therefore, it was arbitrary and capricious. To be sure, NMFS cannot be said to have ignored the problem *entirely*, and there is compelling evidence in the record that ODFW’s mitigation measures *may* decrease gene flow. Nevertheless, it is entirely unclear whether the 2% gene flow cap is or can be attained or measured, especially in light of uncertainty regarding the variability or accuracy of the measures used to calculate gene flow.

If the administrative action is to be tested by the basis upon which it purports to rest, that basis must be set forth with such clarity as to be understandable. Here, the BiOp relies that the 2% maximum is being achieved, and the Court cannot determine that it is, or that it can be. “[A court cannot] be expected to chisel that which must be precise from what the agency has left vague and indecisive. In other words, ‘We must know what a decision means before the duty becomes ours to say whether it is right or wrong.’” *Sec. & Exch. Comm’n v. Chenery Corp.*, 332 U.S. 194, 196-97 (1947) (quoting *U.S. v. Chicago, M., St. P. & P.R. Co.*, 294 U.S. 499, 511 (1935)).

Accordingly, the Court must conclude that NMFS ignored this important problem. *See Native Fish Soc. v. Nat'l Marine Fisheries Servs.*, 992 F. Supp. 2d 1095, 1112 (D. Or. 2014) (finding arbitrary and capricious NMFS no jeopardy determination on gene flow where BiOp demonstrated uncertainty and was “entirely unclear why NMFS expected that the stray rates would actually be attained.”).

B. Mitigation Measures

Plaintiffs contend the three mitigation measures described at the beginning of this section are simply aspirational or optional, not required, which undermines a finding of no jeopardy. Pls' MSJ at 40-41.

1. Advancing Hatchery Steelhead Spawn Timing

Plaintiffs assert that “the BiOp does not rationally explain why spawning all summer steelhead in December will necessarily cause summer steelhead to then spawn earlier in the wild.” Plfs.' Resp. at 28. Plaintiffs argue that the aim to separate the timing of summer steelhead and winter steelhead will not be successful, pointing to data showing that some summer steelhead will still spawn in the wild in February through March. *Id.* Plaintiffs also assert that, even if it is successful, ODFW has already begun to advance summer steelhead spawning to December, so it cannot now be relied upon as a mitigation measure. Plfs.' MSJ at 30.

All Defendants respond, each pointing out where the BiOp analyzes several decades of spawning time history for summer steelhead. Specifically, the BiOp reports that “[o]ver the last generation, a management change has occurred to shift the spawn timing of hatchery summer steelhead even earlier in order to further

separate the spawn timing of summer steelhead from winter steelhead. NOAA AR 2041. Evidence in the record is that while “[s]ummer steelhead have historically been spawned in December and January,” *id.* (citing NOAA AR 2143), the chart on the page of the BiOp that Plaintiffs cite (Figure 55) shows that 66% of summer steelhead broodstock were spawned in December from 2013-2018, compared to 31% from 2006-2012. *See* NOAA AR 2143 (Figure 55).

In other words, in the five years before the development of the HGMP, ODFW doubled the proportion of summer steelhead broodstock spawned in December compared to the previous six years. Moreover, now “the majority of summer steelhead” are spawned in December, and that trend is expected to be ongoing. *See* NOAA AR 2141.

Further, the BiOp explains that “[s]ince spawn timing is a *heritable trait* in steelhead,” the spawn timing data from the South Santiam hatchery “where returning summer steelhead are spawned as broodstock for the release program . . . provides relevant information on the spawn timing for hatchery summer steelhead in the wild.” *Id.* (emphasis added).

According to the record, spawn timing is genetic, so selecting returning summer steelhead that are among the earliest to spawn as broodstock for the release program means that hatchery summer steelhead smolts released into the North and South Santiam Rivers will likely inherit their parents’ genetic predisposition to spawn early (i.e., in December or January rather than February). Given these statements in the BiOp, and this data, the mitigation measure to advance spawn

timing represents a detailed plan that is reasonably certain to occur, not just a “generalized contingenc[y] or gesture at [a] hopeful plan[.]” *Ctr. for Biological Diversity*, 982 F.3d at 743.

Accordingly, the Court finds all Defendants are correct, that the BiOp rationally concludes that “[t]he shift to a higher percentage of summer steelhead spawning in December versus January will reduce the probability of overlap between summer and winter steelhead.” *Id.* Plaintiffs’ reliance on data from 2003 to 2005 showing that “returning summer steelhead have then spawned in the wild as late as February and March”—before the mitigation measure to advance summer steelhead spawn timing as described in the HGMP was implemented—does not undermine this rational conclusion or NMFS’s explanation. Plfs.’ MSJ at 28 (citing NOAA AR 6906). All Defendants are entitled to summary judgment on this point.

2. Suspension of Recycling

Plaintiffs argue that the no jeopardy opinion relies on “terminating recycling” of summer steelhead, and that “recycling means to take adults that return to traps but are not needed for broodstock and release them back into the river to enhance fishing.” *See* Plfs.’ MSJ at 31 (citing NOAA AR 2010). Plaintiffs maintain that, historically, ODFW recycled hatchery steelhead in a quantity six times the amount of returning wild winter steelhead, half of which remained in the river, the number of which dwarfed winter steelhead population. *Id.* (citing NOAA AR 8014, 8019).

Federal Defendants point out that the Management Plan expressly provides that “ODFW *will suspend* the recycling programs in the Santiam Basin until there is

evidence that the programs present little risk to winter steelhead (whether from introgression or from naturally produced summer steelhead).” Fed. Defs.’ MSJ at 19 (citing USACE AR 6594) (emphasis added). Federal Defendants urge that, though the HGMP provides for possible future changes to the action if new scientific data support such changes, that caveat is logical, where “[i]n the Santiam Basin the program will continue for an undefined period into the future.” USACE AR 6595.

Moreover, any potential future changes to the action would trigger reinitiation of consultation with NMFS. *See Ctr. for Biological Diversity*, 982 F.3d at 743 (“If an action agency fails to carry out the mitigation measures contained in a BiOp, it must re-initiate consultation with [NMFS].” (citations omitted)); 50 C.F.R. § 402.16(c). Accordingly, the Court finds these measures reasonably certain to occur.

3. Temporarily Reduced Releases

Plaintiffs take issue with the reduced number of releases and the fact that the HGMP permits future increases. Plfs.’ MSJ at 31. Defendants note that, in describing the proposed annual fish release levels, the HGMP states that releases are being temporarily reduced in the South Santiam by 25%—to 121,000, and explicitly states that “[t]he proposed current release is 121,000 smolts[.]” Fed. Defs. MSJ at 19 (citing USACE AR 6591, USACE AR 6592).

The record is that the HGMP states that “ODFW will consider reinstating” or “further reduc[ing]” hatchery summer steelhead releases *only if the results of proposed and planned research on risks to winter steelhead populations show that such changes are warranted.*” USACE AR 6591. (emphasis added). NMFS also

states, “NMFS... must issue written concurrence of any changes to the summer steelhead hatchery program before being implemented by ODFW.”

The Ninth Circuit has held that NMFS may reasonably rely on mitigation measures in its analysis if such measures constitute a “clear, definite commitment of resources” and are “under agency control or otherwise reasonably certain to occur.”

Ctr. for Biological Diversity, 982 F.3d at 743. The Court finds that such is the case here. The terms of the HGMP, including mitigation measures, were incorporated into the proposed action, USACE AR 6597-98, and, persuasively, the reduced release is reasonably certain to occur, based on the fact that the BiOp’s mitigation measures are largely under the control of the action agency, ODFW, and require oversight and written concurrence by NMFS. *See e.g., Nat. Res. Def. Council v. Kempthorne*, 506 F. Supp. 2d 322, 353 (E.D. Cal. 2007).

In sum, these mitigation measures—advancing spawn timing, reducing releases in the South Santiam River, and terminating recycling—had “been implemented recently” or “w[ould] be implemented” under the HGMP. NOAA AR 2009. Moreover, the terms and conditions of the BiOp’s ITS require ODFW to “implement the reform actions included the summer steelhead HGMP (2018).” NOAA AR 2207. The HGMP, if read in isolation, could suggest that ODFW retains discretion to release more fish. But the HGMP must be read together with the terms and conditions of the BiOp, which makes clear that its terms and conditions are nondiscretionary. *See* NOAA 2204 (describing reasonable and prudent measures as nondiscretionary. Accordingly, Plaintiffs fail to show that the mitigation measures

in the HGMP and BiOp are merely “generalized contingencies or gesture[s] at [a] hopeful plan[.]” *Ctr. for Biological Diversity*, 982 at 743 (9th Cir. 2020) (citation omitted).

V. Incidental Take Statement Background

If a consulting agency finds a proposed action will not cause jeopardy to a listed species, it must also evaluate whether the action may take individual members of the species. 16 U.S.C. § 1536(b)(4). If so, the agency must issue an ITS specifying (1) the impact, i.e., the amount or extent of such incidental take on the species; (2) reasonable and prudent measures necessary or appropriate to minimize the impact; and (3) mandatory terms and conditions to implement the measures. 50 C.F.R. §§ 402.14(i)(1)(i), (ii), (iv). The ITS must also ensure the amount or extent of incidental take can be monitored and is reported to the consulting agency. 50 C.F.R. § 402.14(i)(3). A purpose of an ITS is to set a clear level of take, or “trigger,” which, if exceeded, requires reinitiation of consultation. *Allen*, 476 F.3d at 1038. If the amount or extent of incidental take is exceeded, that indicates the analyses and findings in a BiOp need to be revisited. *Ctr. for Biological Diversity v. Salazar*, 695 F.3d 893, 912 (9th Cir. 2012).

Here, NMFS found the summer steelhead program will not cause jeopardy to the winter steelhead DPS, but also that summer steelhead will take individual winter steelhead, primarily due to summer steelhead and the progeny of naturally spawning summer steelhead (1) on winter steelhead spawning grounds, and (2) in juvenile winter steelhead rearing areas. NOAA AR 2198. NMFS found the results of these

interactions include “genetic effects . . . through interbreeding between the hatchery and natural-origin fish,” and “ecological interactions of hatchery [] steelhead in rearing areas.” NOAA AR 2200-01. Accordingly, NMFS issued an ITS to address incidental take of winter steelhead due to genetic and ecological effects from summer steelhead. NOAA AR 2197-2209.

A. *The ITS and Increases to Summer Steelhead*

Plaintiffs assert that the ITS addresses take of winter steelhead in juvenile rearing areas via a surrogate that “that relies on the ability of the program to meet several parameters, which tend to stabilize the extent of take.” Plfs.’ MSJ at 34 (citing NOAA AR 2201). The ITS expresses the permissible amount or extent of incidental take by three indicia: the “smolt release goal” of the summer steelhead HGMP; the size of the yearlings released; and where they are released. *Id.* Plaintiffs point out that, as to the number of yearlings and their size, the ITS allows 10% “annual variability,” which can mean *increases* in both. *Id.*

Essentially, Plaintiffs take issue with the fact that the 121,000 hatchery fish can be increased by 10% and that this is “beyond what was evaluated in the BiOp.” *Id.* (meaning 133,100 yearlings) into both the North and South Santiam Rivers, NOAA AR 4344.

Federal Defendants assert that Plaintiff’s argument ignores the BiOp’s description of the proposed actions evaluated as including “[r]elease of approximately six million juvenile hatchery fish (*10% exceedance of the program goal*) from the various hatchery release facilities in the Upper Willamette River basin.” Fed. Defs.’

MSJ at 28 (citing NOAA AR 2005) (emphasis in Defendants’ brief). Second, Defendants assert that Plaintiffs’ argument ignores the requirement in the ITS that “[t]he *five-year rolling average*” of hatchery summer steelhead smolt releases must not exceed the annual smolt release goal to “ensure[] the effects are within the scope analyzed in the opinion based upon the number of hatchery fish released, while allowing some variability for any particular year[.]” *Id*; see also NOAA AR 2201

In other words, Defendants maintain that, although releases *could* exceed the annual release goal by up to 10% in a single year, if the five-year rolling average of releases exceeds the annual release goal, then take would be exceeded and reinitiation required. Generally, this means that, if releases exceed the annual release goal in a given year, releases must be below the annual release goal in another year to ensure the five-year average releases do not exceed the annual release goal.

Because the data cited in the HGMP and BiOp incorporated releases of the proposed size (and, in fact, the data for the South Santiam River encompassed larger releases, *see* USACE AR 6648), the Court finds that NMFS’s claim that “the effects analysis considered up to this limit annually” (i.e., “the smolt release goal for the hatchery program plus 10% for annual variability”) is reasonable. NOAA AR 2201. If the ITS is arbitrary and capricious, it is not for this reason, and Defendants are entitled to summary judgment on this issue.

B. pHOS Limits for Ecological Take

Plaintiffs assert that the ITS states incidental take will occur in part through ecological interactions of summer steelhead in juvenile rearing areas but fails to set

take limits that cover all those interactions. Plfs.’ MSJ at 34 (citing NOAA AR 2201). Specifically, Plaintiffs take issue with the BiOp for “not set[ting] pHOS-based ecological take limits, which address the latter effects.” Because the Court determined that the BiOp itself noted that pHOS values were highly variable and uncertain, the Court declines to also find that the ITS should have set pHOS-based take limits. Plaintiffs’ argument essentially fails for the same reasons its previous argument—that the BiOp’s approval of the 2% gene cap requirement—succeeded.

C. Genetic Monitoring Requirement

From what the Court can discern, Plaintiffs appear to assert that the “current” gene flow cannot be accurately monitored or reported, so the ITS is arbitrary and capricious by adopting a “current gene flow” as a measure of incidental take. Plfs.’ MSJ at 36. To the extent that argument is in line the Court’s general finding that the existing administrative record does not contain evidence of what the current gene flow actually is, or of any calculation demonstrating with certainty that it is at or under 2%, Plaintiffs argument is supported. Beyond that, it appears overbroad in scope.

In their motion, Federal Defendants respond that the non-discretionary terms and conditions of the ITS require ODFW to conduct genetic sampling studies in the North and South Santiam Rivers below the dams every five years to “determin[e] current gene flow (introgression) from non-native steelhead into natural populations” and send the result to NMFS. Fed. Defs.’ MSJ (citing NOAA AR 2207). Defendants assert that neither the ITS nor its terms and conditions require ODFW to use any

particular method to calculate gene flow (e.g., pHOS-based calculations or genetic sampling studies). *Id.* But the terms and conditions state that, “[i]f [the reform] actions do not limit gene flow from summer steelhead to ESA-listed winter steelhead populations to less than 2% (as described in the HGMP and the [ITS] . . .), further reductions in the release of hatchery summer steelhead in these rivers shall be implemented.” *Id.* While the BiOp’s data does not support its conclusions about the current gene flow rate, it does not follow that *requiring* ODFW to conduct studies to estimate take is unreasonable, nor does the Court find it to be.

VI. Summer Steelhead Effect on Winter Steelhead

In summary, Plaintiffs assert that the jeopardy determination is required to be additive. Plfs.’ MSJ at 38 (citing 50 C.F.R. § 402.14(g)(4)). Plaintiffs maintain that the BiOp fails to properly add up the lack of access to one-third of important historic spawning and rearing habitat; a degraded environmental baseline; a projected worsening of the degraded environmental baseline; depressed winter steelhead populations; and introduction of a non-native species of fish that the administrative records reveal, in every considered metric, risk or cause harm to winter steelhead via competition, displacement, predation, and genetic introgression. *Id.* Because the Court assessed individually for each relevant section above the propriety of NMFS’s “no jeopardy determination,” it will not repeat the analysis of its findings here.

VII. The Environmental Impact Statement and NEPA

An EIS must consider the purpose and need “for a proposed action, and “[r]igorously explore and objectively evaluate” effects of “all reasonable alternatives”

to the action. 40 C.F.R. §§ 1502.13, 1502.14. The alternatives analysis is the heart of the NEPA process because it “present[s] the environmental impacts of the proposal and the alternatives in comparative form,” allowing for informed decision-making and public participation. *Id.* at §§ 1500.1(b) & (c), 1502.14. a court reviews whether NMFS considered a sufficient range of alternatives under a “rule of reason” standard that requires the agency to analyze “alternatives necessary to permit a reasoned choice.” *Presidio Golf Club v. Nat’l Park Service*, 155 F.3d 1153, 1160 (9th Cir. 1998) (cleaned up). “A viable but unexamined alternative render [an EIS] inadequate.” *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 814 (9th Cir. 1999) (cleaned up).

As related to the introduction of hatchery summer steelhead, the five alternatives the EIS considered encompassed: maintaining the existing levels (alternative 1); maintaining the existing levels and implementing additional best practices for hatchery operations (alternative 2), replacing introduction of summer steelhead with introduction of hatchery-origin winter steelhead (alternative 3), terminating introduction of all hatchery programs (alternative 4), and increasing introduction (alternative 5). NOAA AR 14365-72.

Plaintiffs’ argument concerns alternative 4, which proposes ending all hatcheries, including those producing Chinook Salmon. Plaintiffs point out that alternative 4 does not address or resolve that hatchery summer steelhead releases could be ended on the clear bases that they are not, unlike hatchery spring Chinook, listed under the ESA, have no role in conserving or recovering winter steelhead (and

are only detrimental to them), and the 2008 BiOp does not preclude ending the summer steelhead program in order to benefit winter steelhead. Federal Defendants respond that Plaintiffs fail to show that “unbundling the analyses would yield any new information to inform its decision.” Fed Defs.’ MSJ at 39-40. In Defendants’ view, nothing in the EIS says that alternative 4 could not include terminating the hatchery program alone. *Id.*

The EIS states that Hatchery Spring Chinook in the Upper Willamette River are listed under the ESA. NOAA AR 14380. The Spring Chinook have a conservation role that supports recovery of wild spring Chinook. NOAA AR 14444. On the other hand, “summer steelhead are not listed” and thus do not play a conservation role. *See* Plfs.’ MSJ at 39 (citing 64 Fed. Reg at 14,517). The text of the evaluation in alternative 4 about the “effects” of ending the summer steelhead hatchery states that “there is potential that eliminating the summer steelhead hatchery program may increase the viability of the UWR winter steelhead DPS by reducing the genetic effects of interbreeding and the ecological interaction effects with hatchery summer steelhead.” NOAA AR 14482-83.

Although NMFS analyzed the HGMPs together in each alternative, the two programs, and their environmental impacts, are separate and independent. For each alternative, NMFS varied the levels of introduction of hatchery fish under each separate program (as well as varying the introduction of natural origin broodstock) and evaluated the environmental effects of each program on its respective species. Contrary to Plaintiffs’ argument that in doing so, NMFS did not consider the

environmental effects of terminating the summer steelhead program, the analysis of alternative 4 considered (1) the impacts on natural-origin spring Chinook of terminating the spring Chinook hatchery program, and (2) the impacts on native-origin winter steelhead of terminating the summer steelhead hatchery program.

Those impacts can reasonably be interpreted as independent of one another and do not change depending on whether they are considered together or separately. Plaintiffs' argument that NMFS should have considered another permutation of the five selected alternatives demands more than NEPA requires. On the contrary, the five alternatives considered in the EIS satisfied NEPA's objective of "foster[ing] informed decision-making and informed public participation," *see Westlands Water Dist. v. United States*, 376 F.3d 853, 872 (9th Cir. 2004), and complied with NMFS's obligation under NEPA to consider a reasonable range of alternatives to assess environmental impacts.

VIII. Whether Agency Actions should be Vacated

Although vacatur of unlawful agency actions is the "presumptive remedy under the APA," *350 Montana v. Haaland*, 50 F.4th 1254, 1273 (9th Cir. 2022) (citing *Alliance for the Wild Rockies v. U.S. Forest Service*, 907 F.3d 1105, 1121-22 (9th Cir. 2018)), courts remand without vacatur "when equity demands," *Idaho Farm Bureau Federation v. Babbitt*, 58 F.3d 1392, 1405 (9th Cir. 1995). This equitable determination requires courts to apply the *Allied-Signal* test, weighing: (1) the seriousness of the agency's errors, against (2) the disruptive consequences of vacatur. *Cal. Cmty. Against Toxics v. EPA*, 688 F.3d 989, 992 (9th Cir. 2012) (per curiam)

(citing *Allied-Signal, Inc. v. U.S. Nuclear Regul. Comm'n*, 988 F.2d 146, 150-51 (D.C. Cir. 1993)).

State Defendants argue that Plaintiffs' requested relief is unclear. ODFW Reply at 18. Federal Defendants request an opportunity to brief the appropriate remedy if the Court finds any error with the BiOp or EIS. *See* Fed Defs.' MSJ at 40. Plaintiffs admit that the Court need not necessarily vacate the BiOp or EIS, *see* Plfs.' Resp. at 34, but argue that Federal Defendants have failed to demonstrate that equity demands a remedy other than vacatur. Plfs.' MSJ at 35.

The Court finds that, without the parties' knowing its ruling, and reasoning for that decision—that vacatur is inappropriate. Further, it would be disruptive and would not benefit the listed species to vacate the BiOp at this time. First, there are measures aimed at mitigating harm to the wild winter steelhead in the HGMP approved in the BiOp, which ODFW represents to the Court are already being implemented. Those measures appear to the Court to be helpful to the listed species. *See* Section IV.B.

Further, the BiOp contemplates that ODFW shall conduct research that provides more information about the percentage of gene flow, and that that information, having not been available at the time this lawsuit was filed, may be available now. NOAA AR 2207; ECF Nos. 60, 61. While not available for the Court's consideration, which was limited to the Administrative Record in this case, results of ODFW's research could be helpful, for example, in assisting the parties' in reaching a resolution about the appropriate remedy.

Therefore, the Parties are granted leave to submit briefing to the Court on the appropriate remedy. The parties shall contact the Court to schedule a Telephonic Status Conference (“TSC”) to occur within 30 days of this order. Before the TSC, the parties shall confer. With that conferral, the parties shall agree to a timeline for briefing, and page number limitation for those briefs. The parties will present that information to the Court at the TSC. The Court encourages the parties to reach a mutually agreeable decision on the remedy.

CONCLUSION

Plaintiffs’ Motion for Summary Judgement, ECF No. 49, is GRANTED in part and DENIED in part, consistent with this opinion. Federal Defendants’ Cross Motion for Summary Judgment, ECF No. 58, is GRANTED in part and DENIED in part, consistent with this Opinion. State Defendant ODFW’s Motion for Summary Judgment, ECF No. 59, is GRANTED in part and DENIED in part, consistent with this opinion. Plaintiffs’ Motion to Strike, ECF No. 62, is GRANTED in part and DENIED in part. Plaintiffs’ Motion to file a Sur-Reply is GRANTED. The Parties are GRANTED LEAVE to file additional briefing as to the appropriate remedy in this case. The Parties shall contact the Court to schedule a Telephonic Status Conference to occur within thirty (30) days of this opinion.

IT IS SO ORDERED.

Dated this 21st day of January 2025

/s/Ann Aiken
Ann Aiken
United States District Judge